

```

graph TD
    44[SIGNAL GENERATOR 44] --> 42[PIN CONNECTION 42]
    42 --> 46[SIGNAL RECEIVER 46]
    46 --> 48[PROCESSOR 48]
    48 --> 44
    46 -. "SIGNAL" .-> 52[(DATA STORAGE ELEMENT 52)]
    52 -. "PRIOR SIGNALS/LIBRARY" .-> 48
    48 --> RESULT[RESULT]
  
```

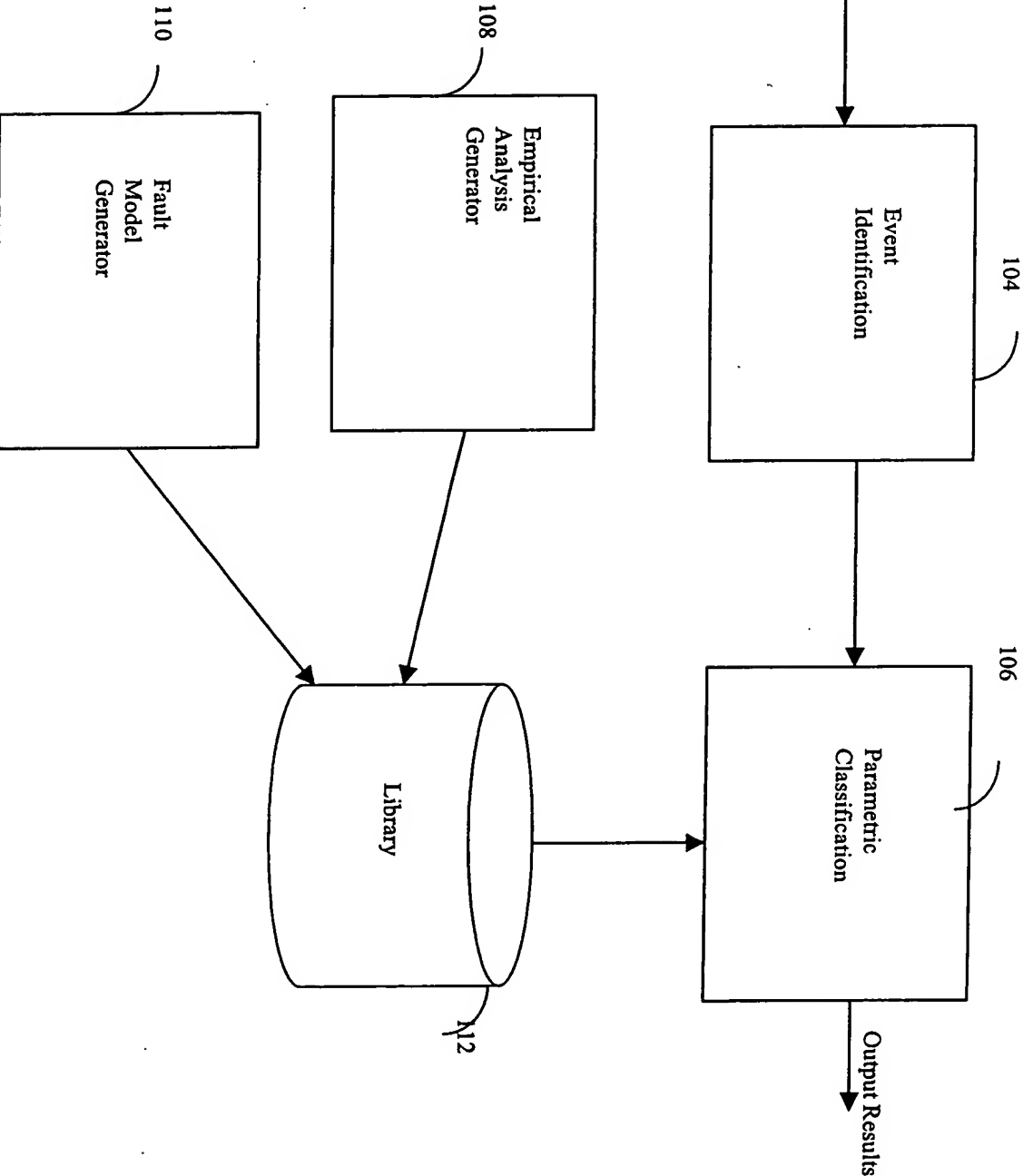
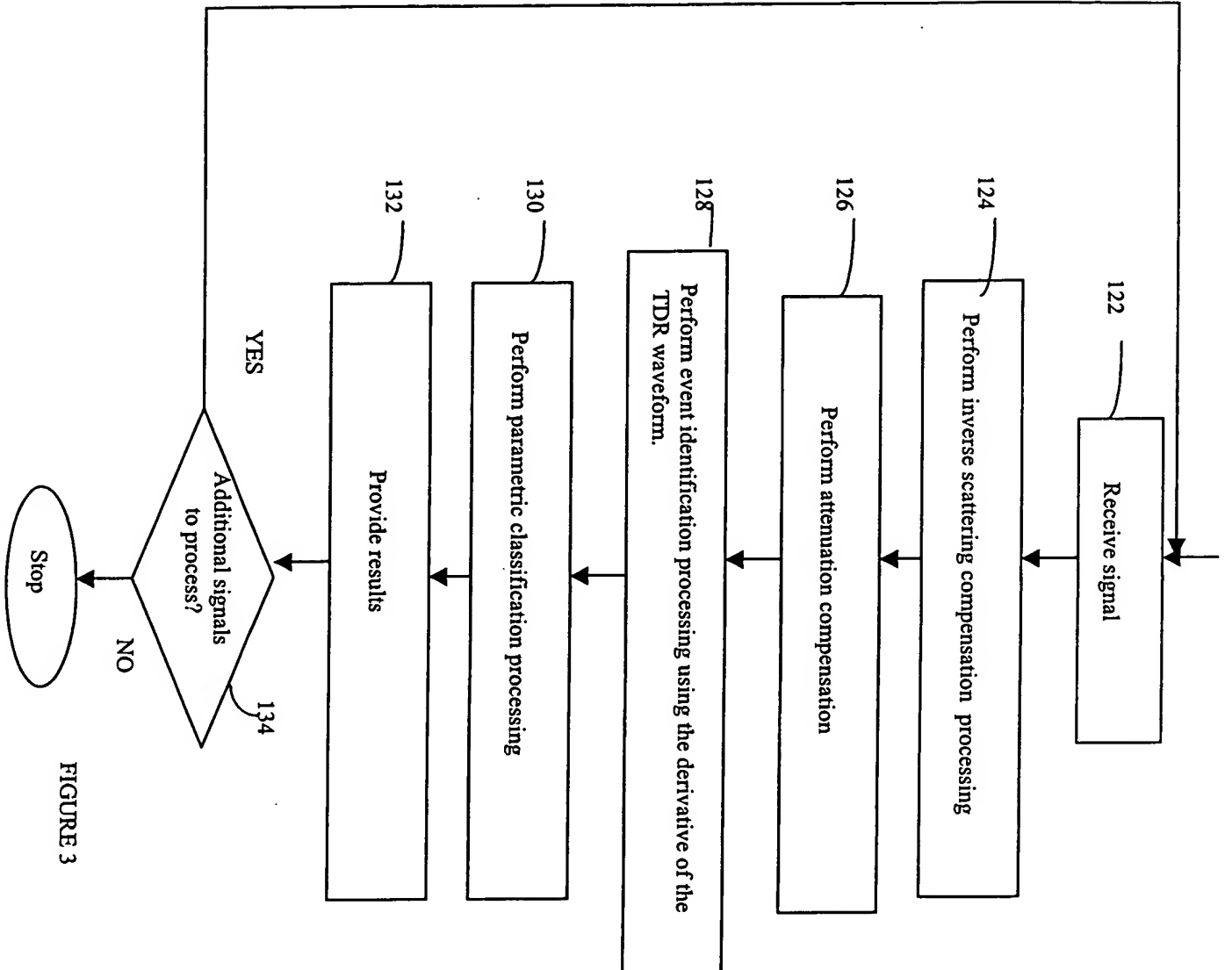


FIGURE 2



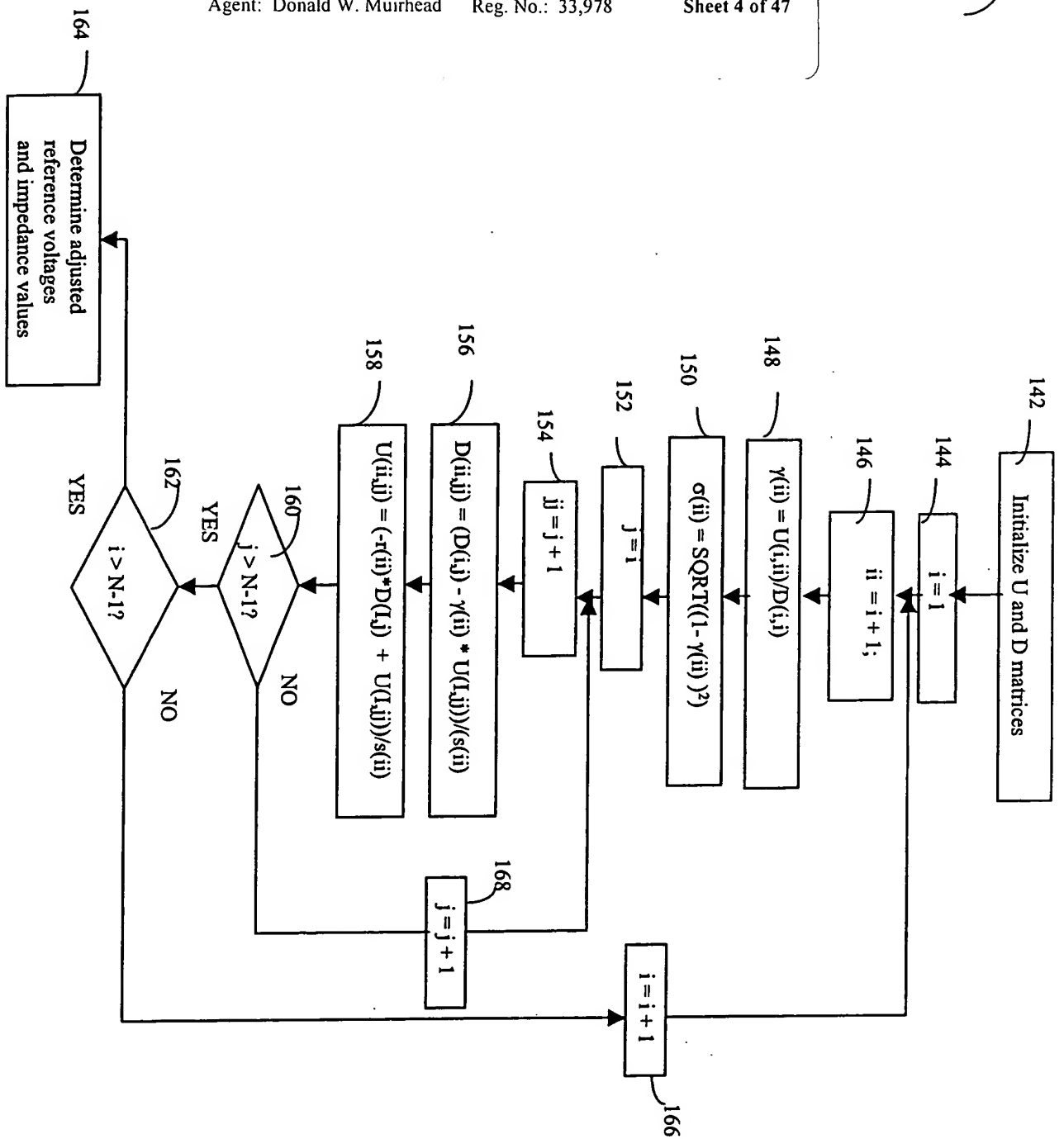


FIGURE 4

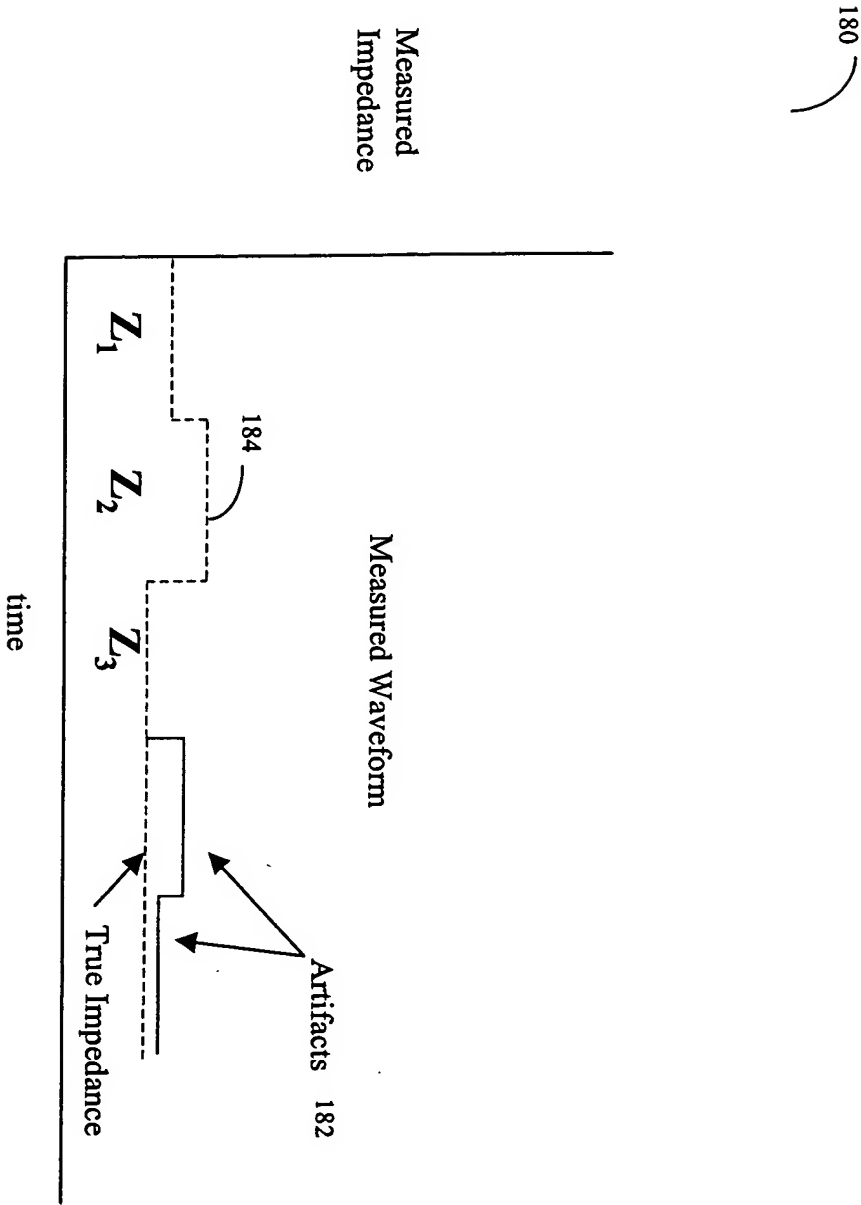


FIGURE 5A

TITLE: WIRE FAULT DETECTION

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Comparison of Measured Waveform Adjusted for Scattering Problem

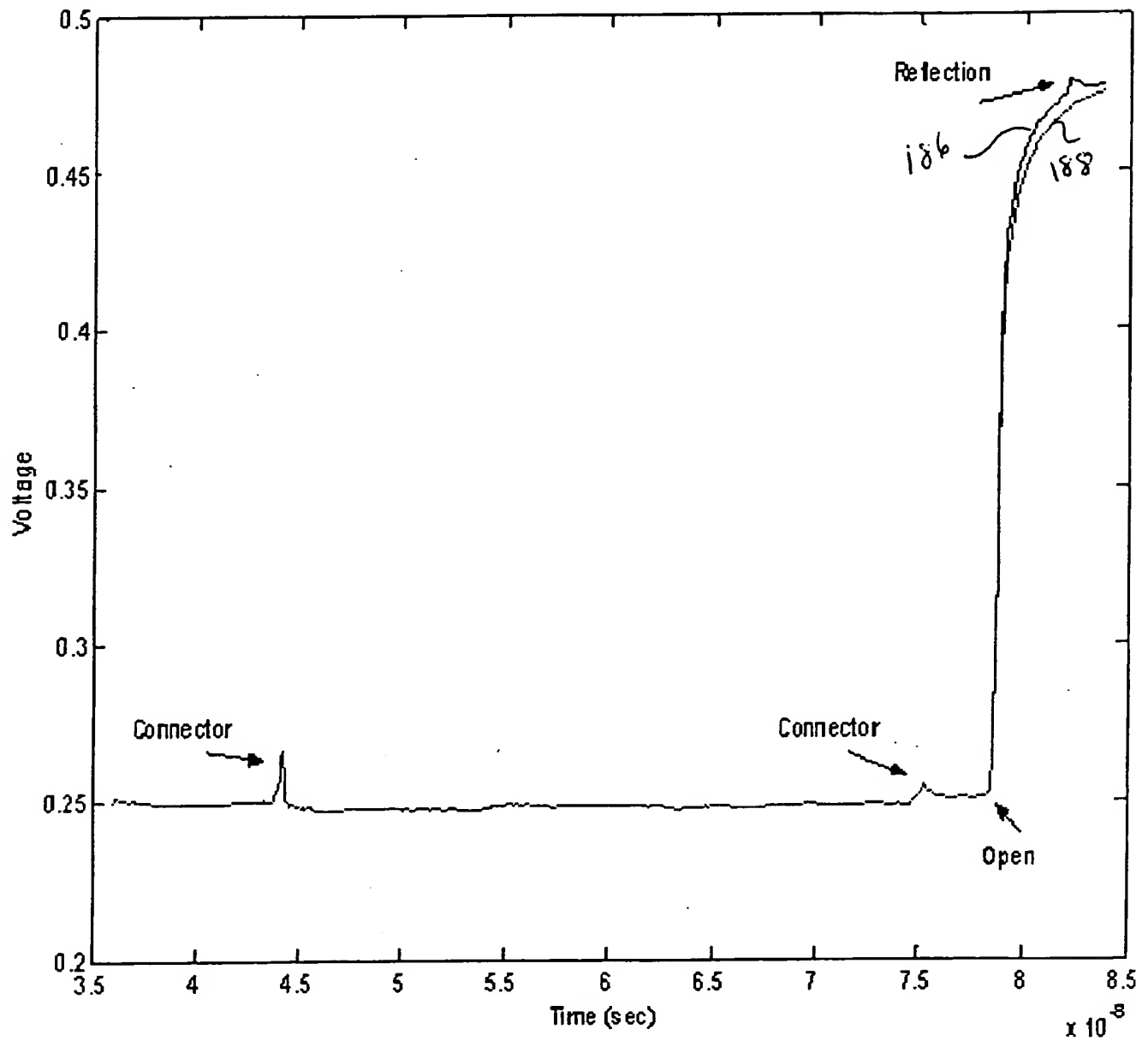


FIGURE 5B

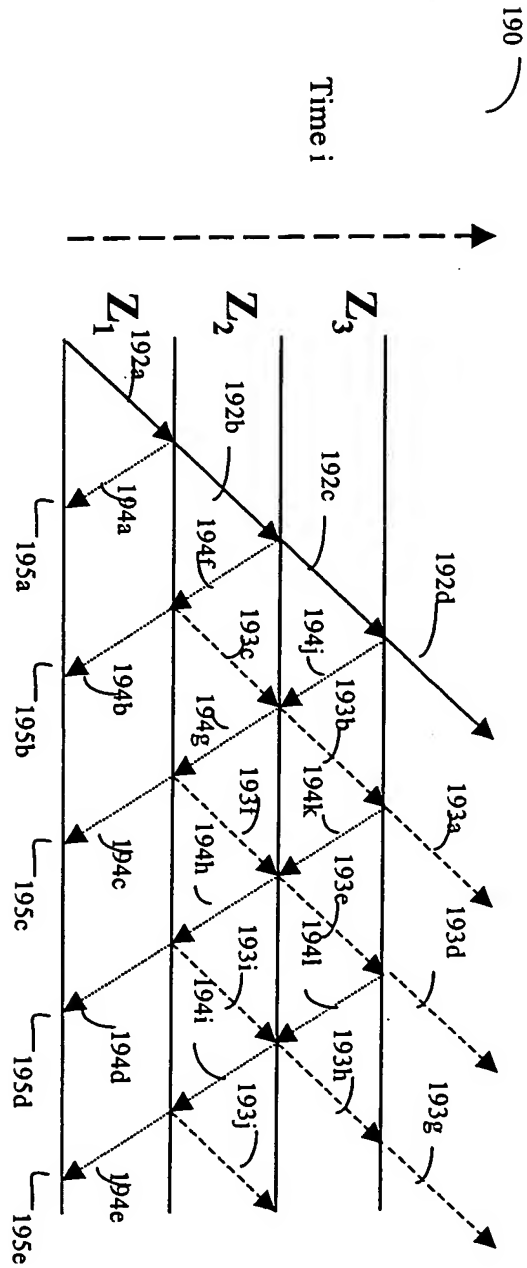
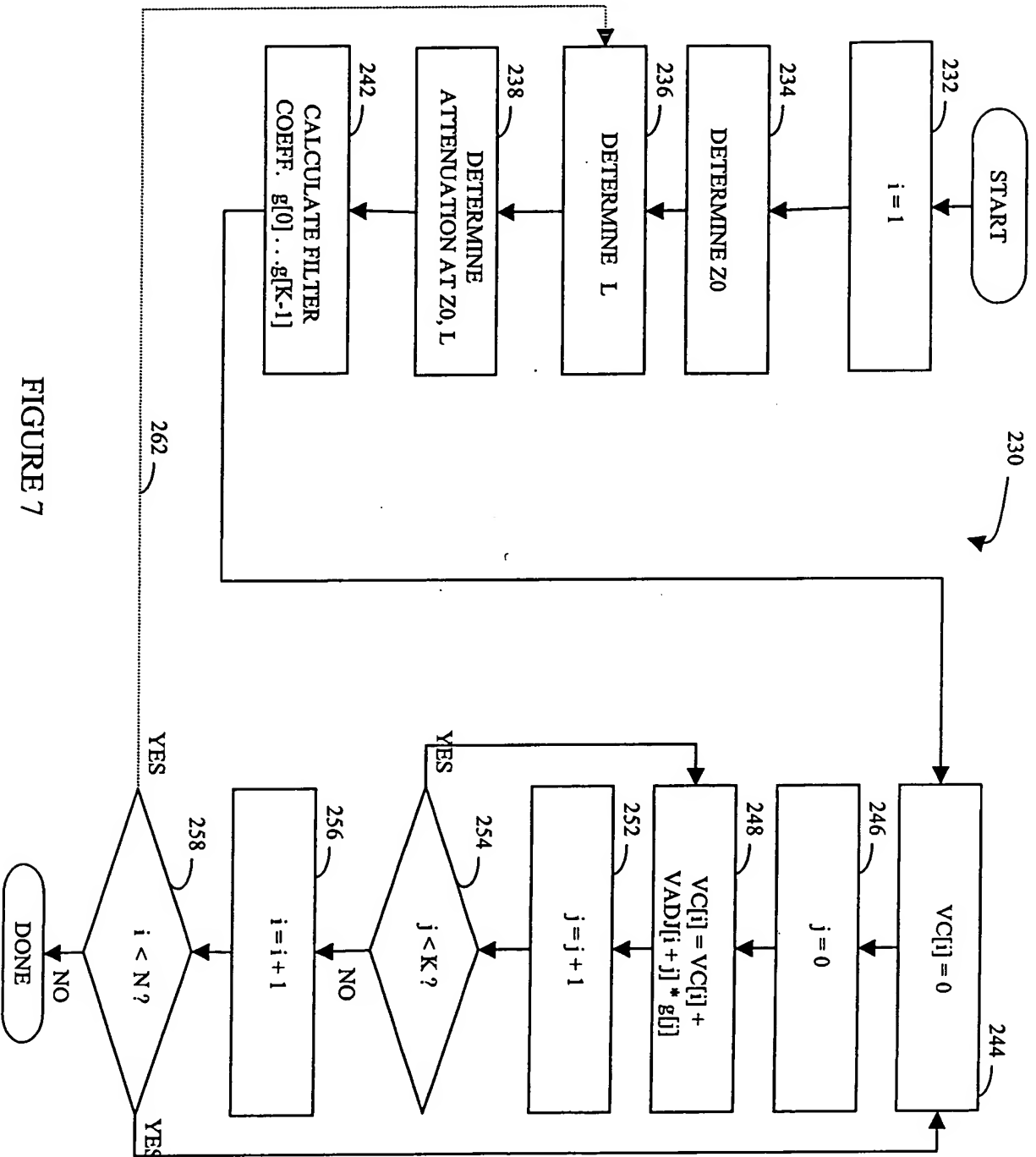


FIGURE 6



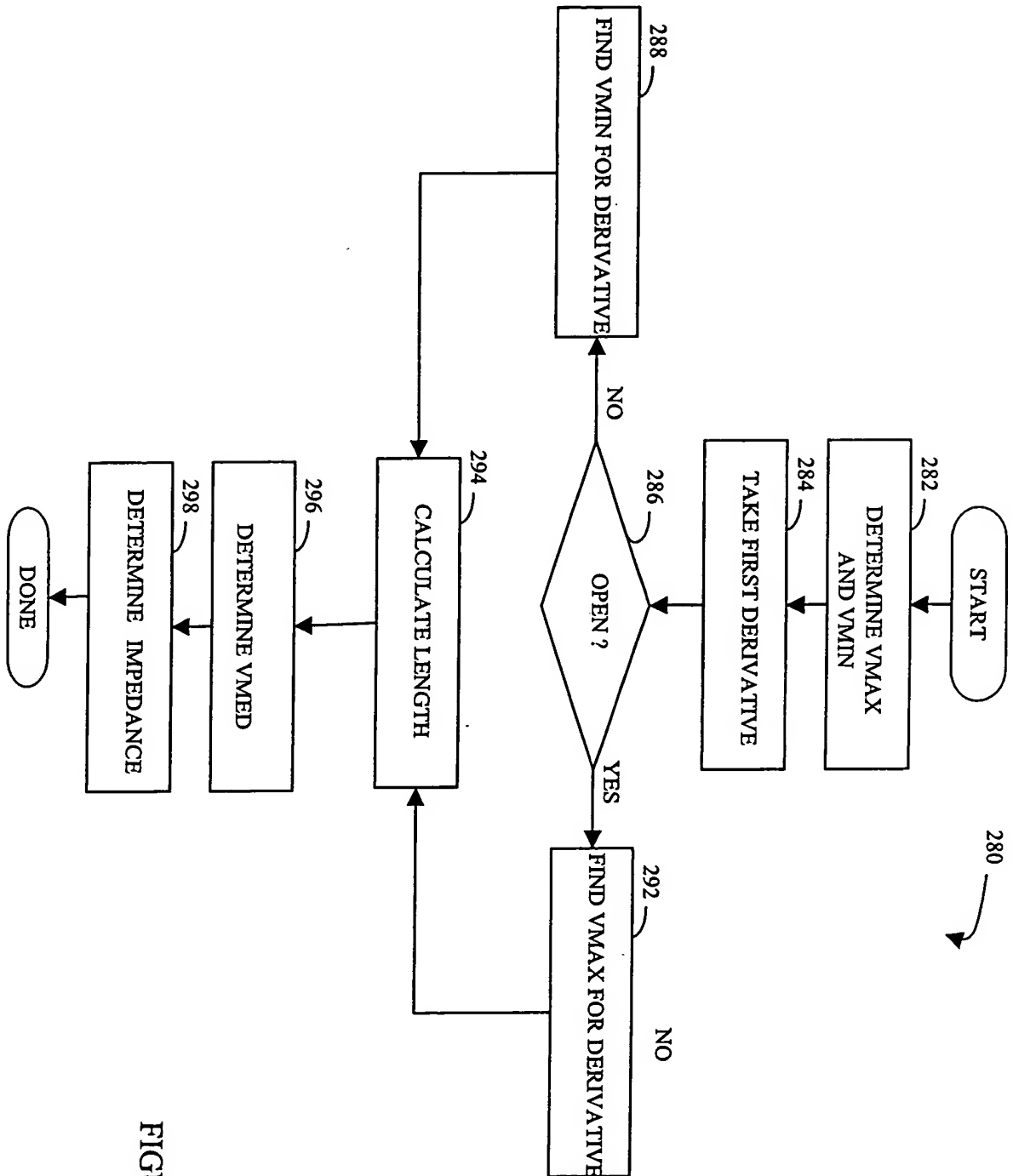


FIGURE 8

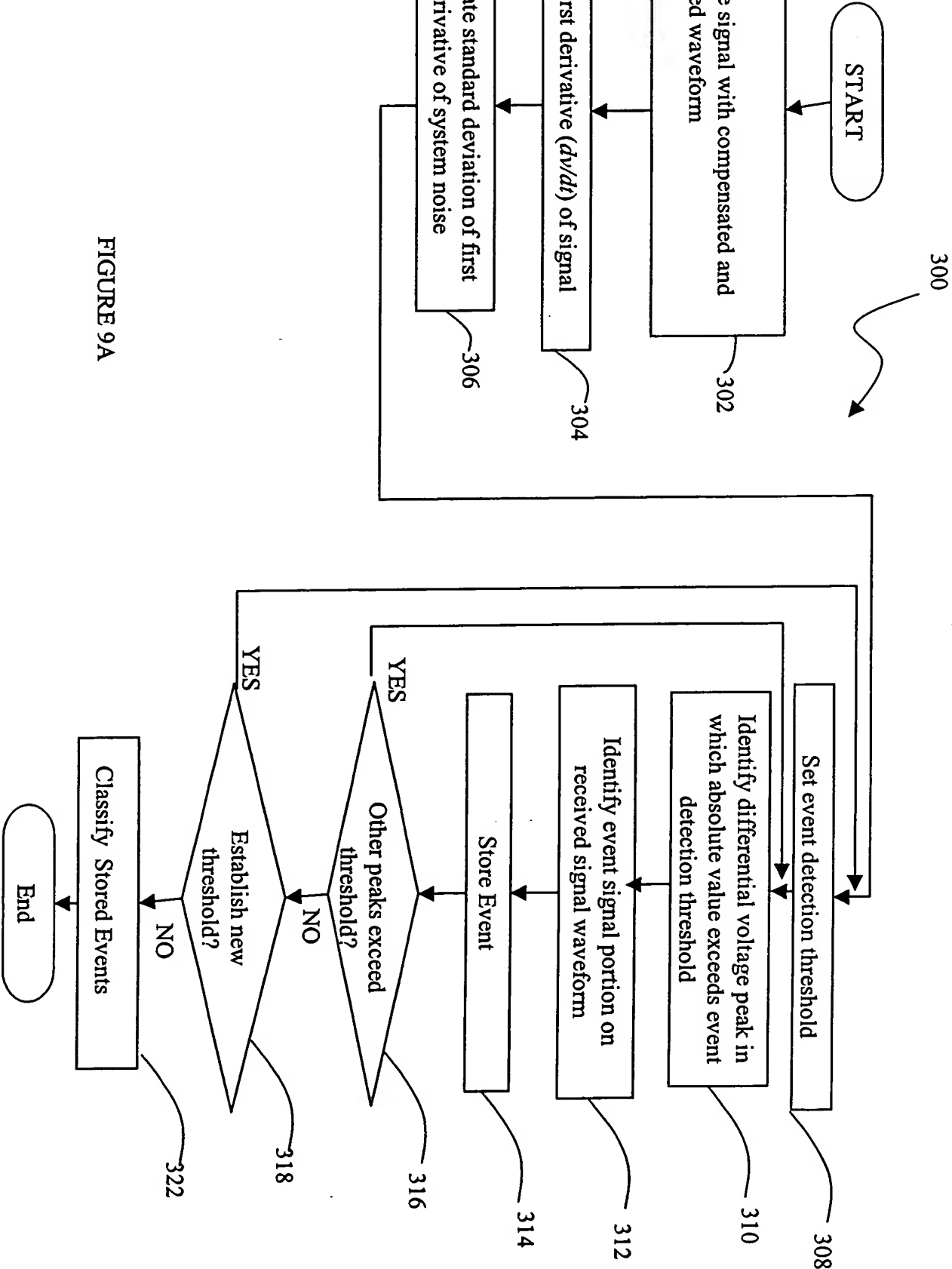


FIGURE 9A

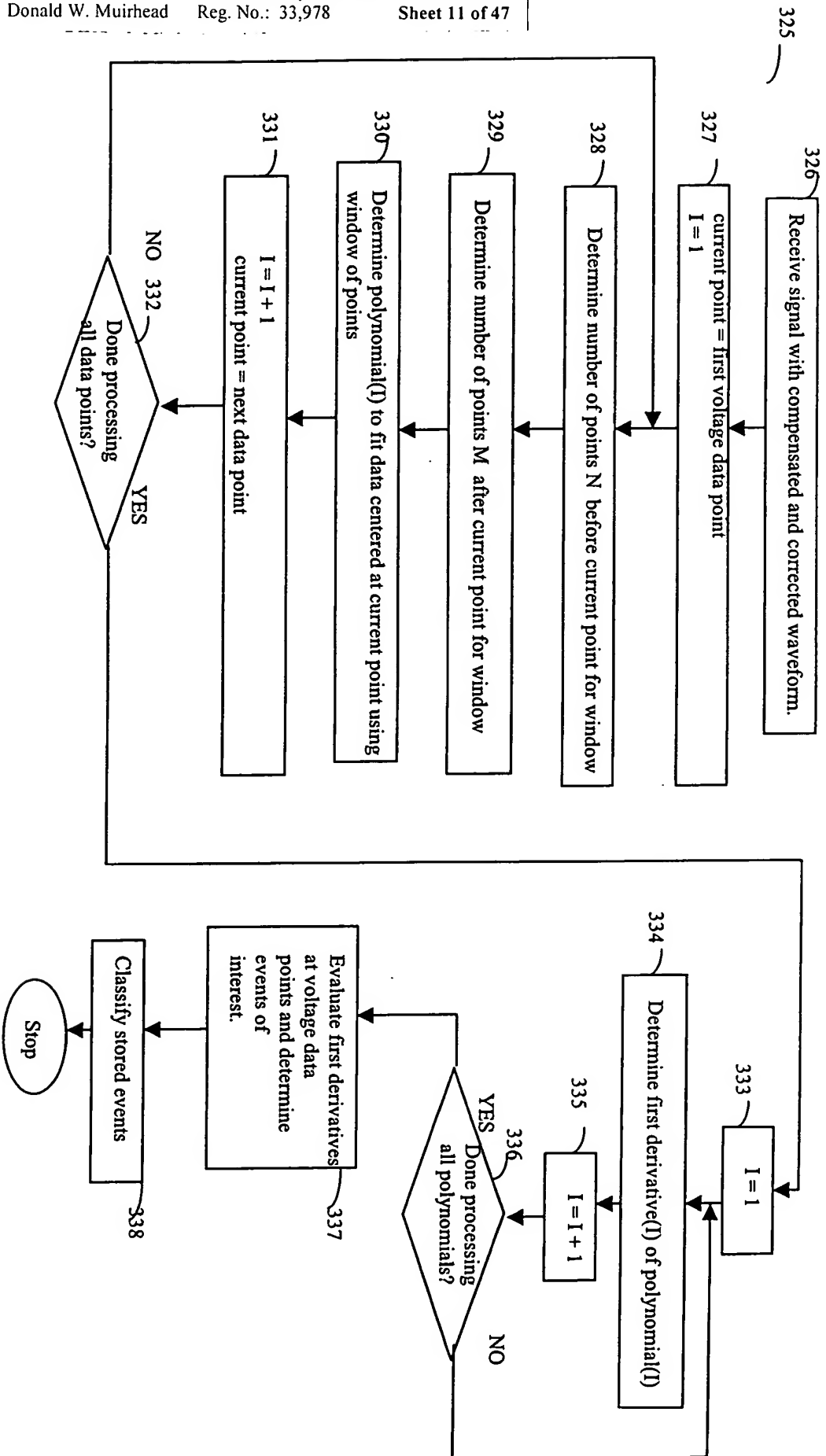


FIGURE 9B

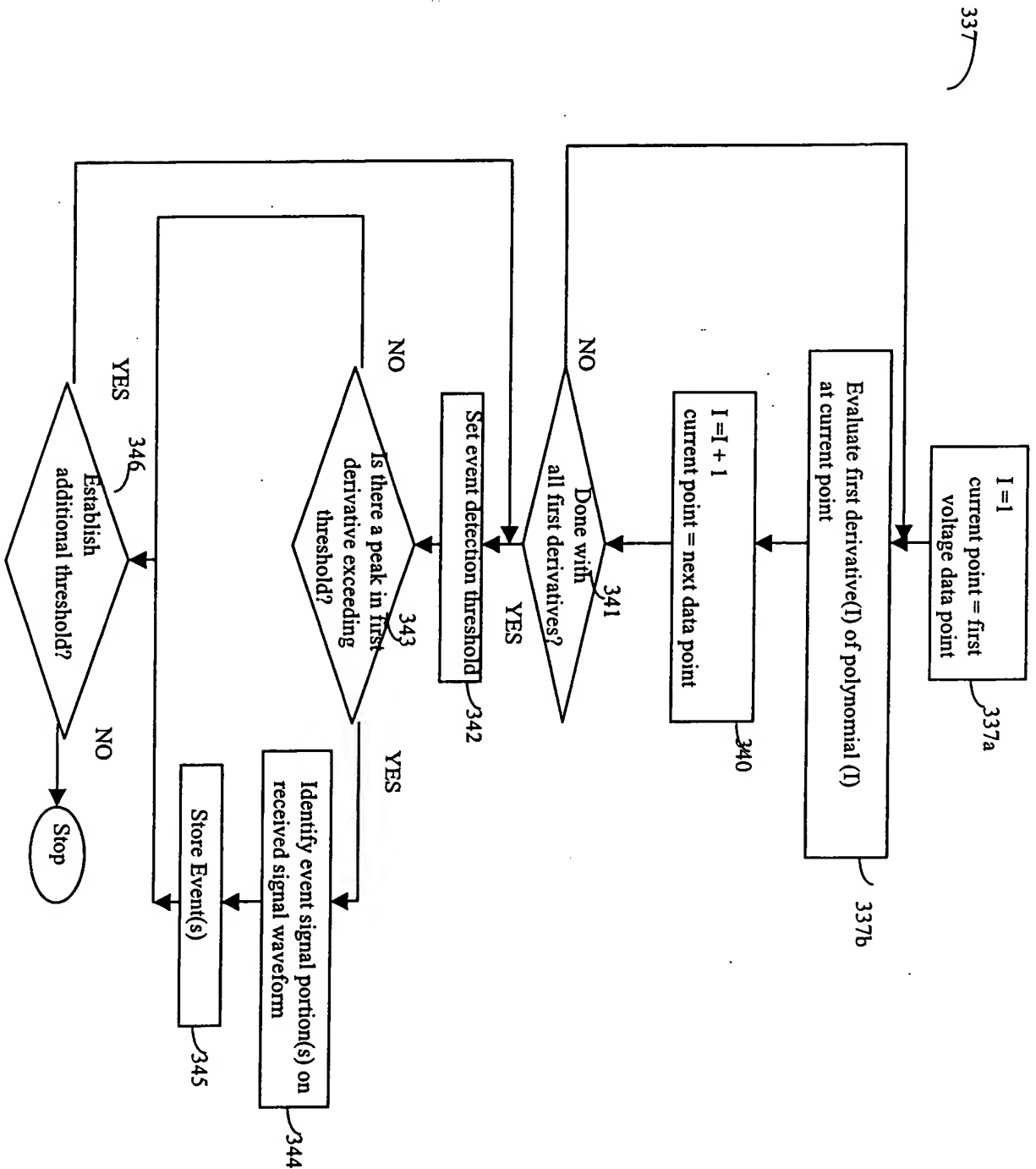
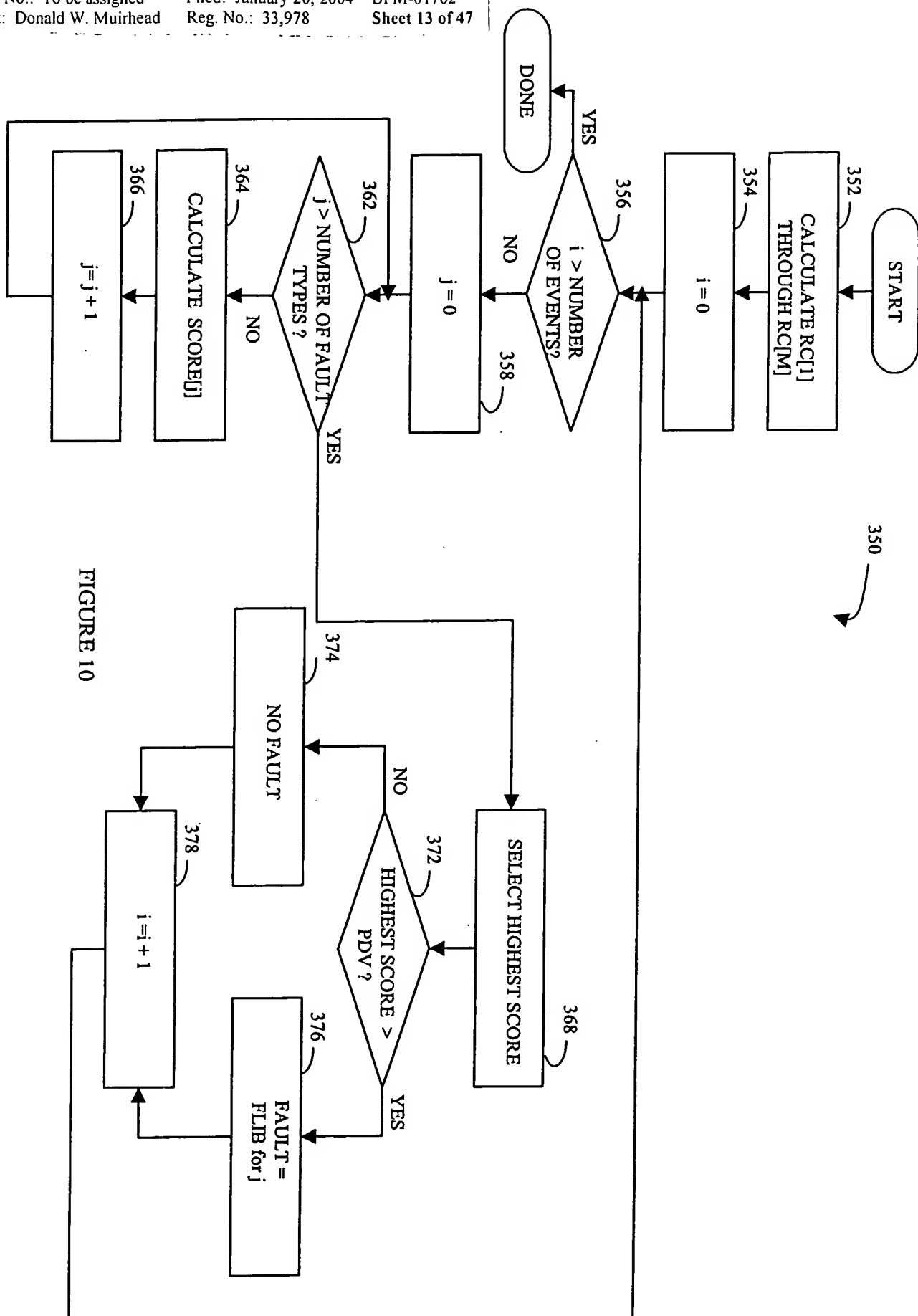


FIGURE 9C



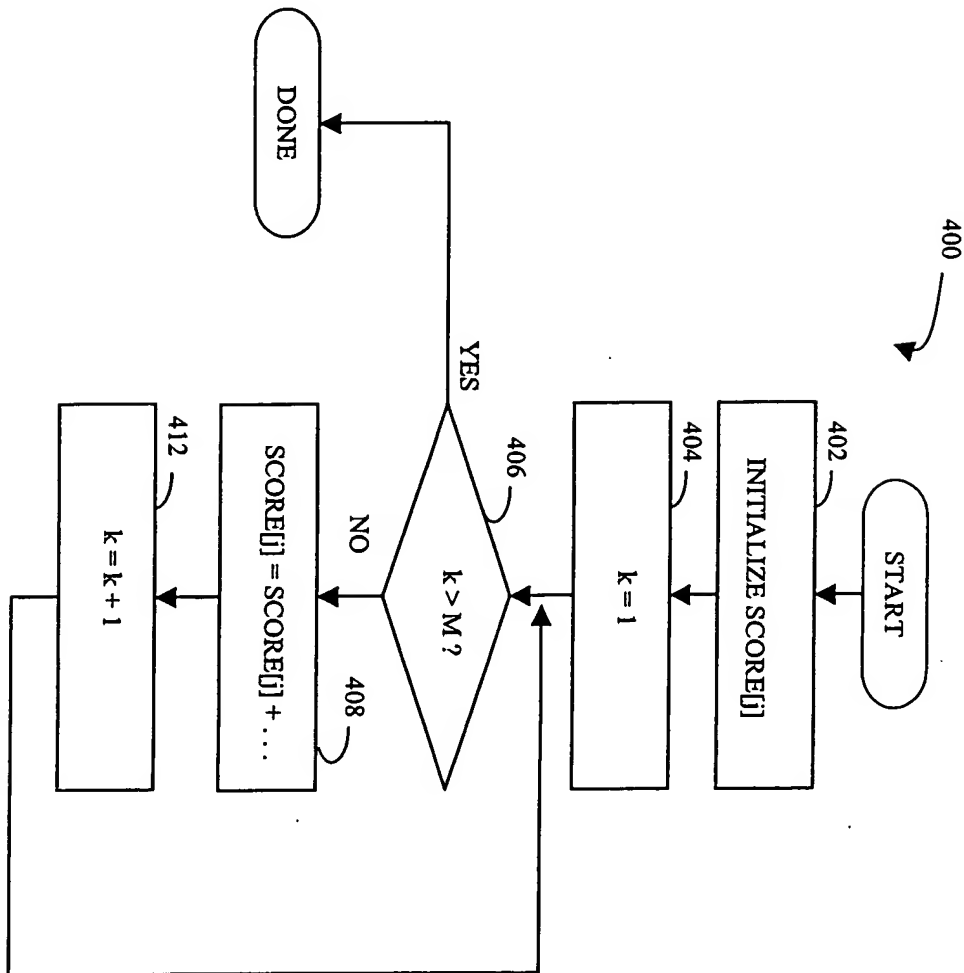


FIGURE 11

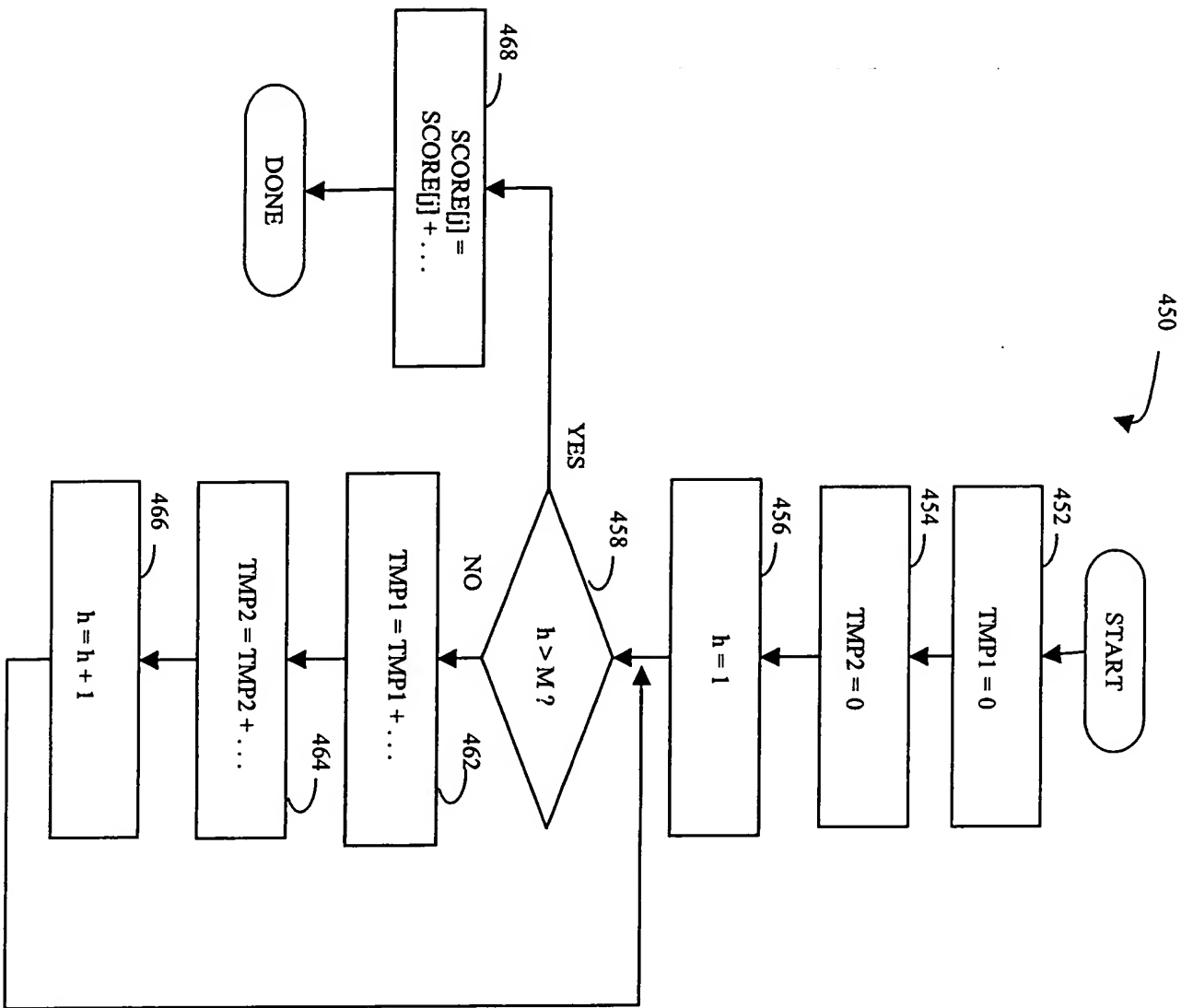


FIGURE 12

TITLE: WIRE FAULT DETECTION

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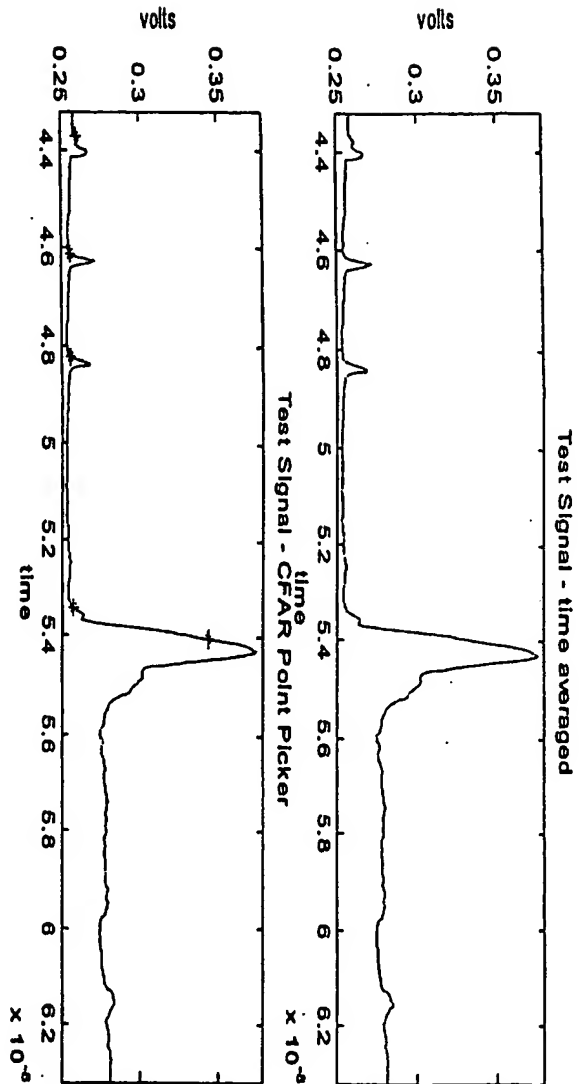


FIGURE 13A

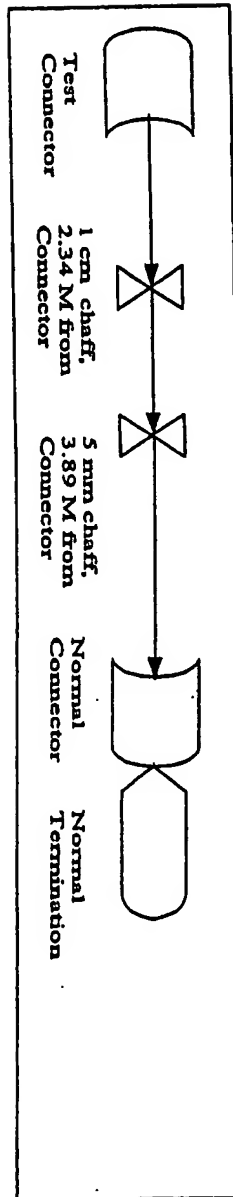


FIGURE 13B

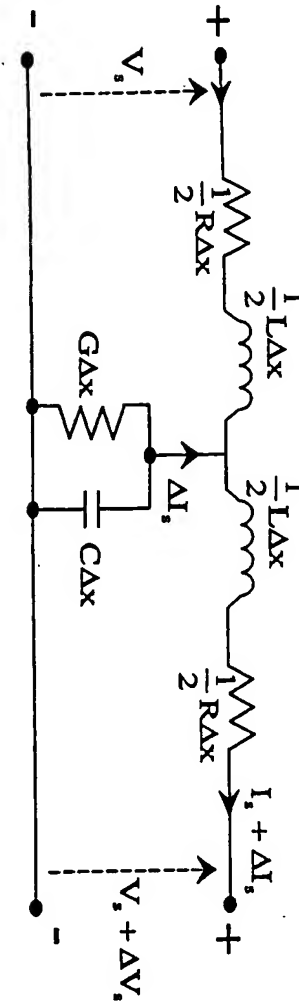


FIGURE 14

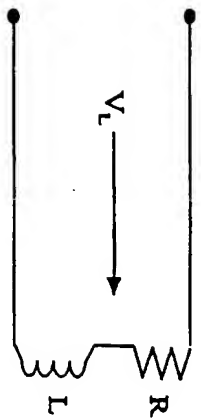


FIGURE 15

TITLE: WIRE FAULT DETECTION

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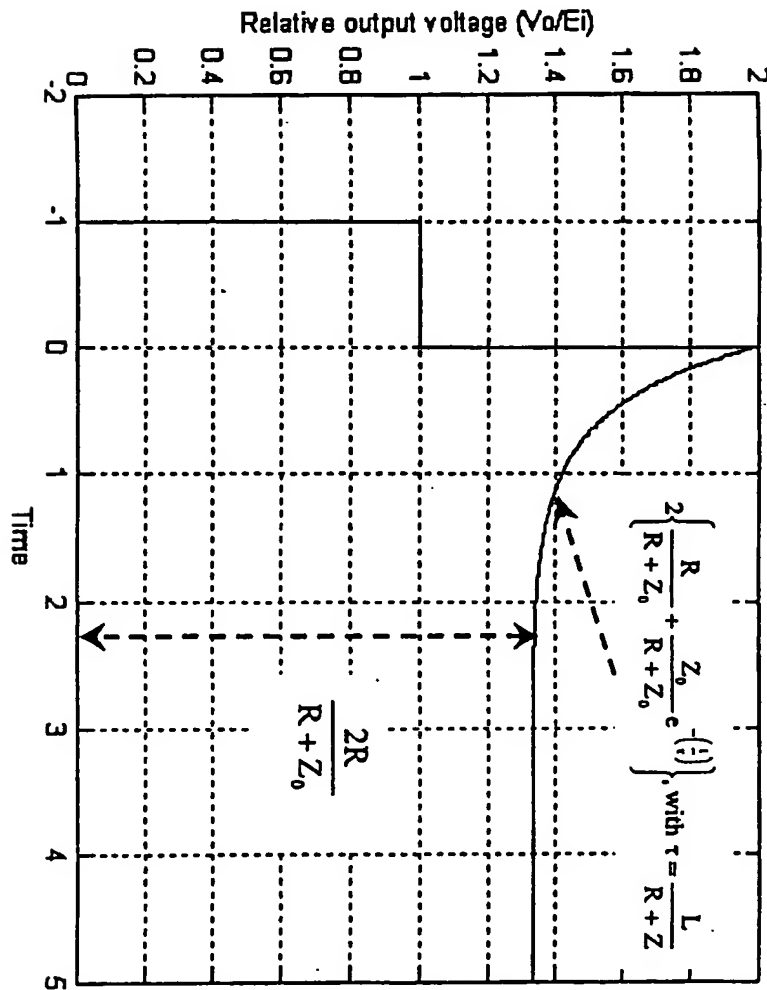


FIGURE 16

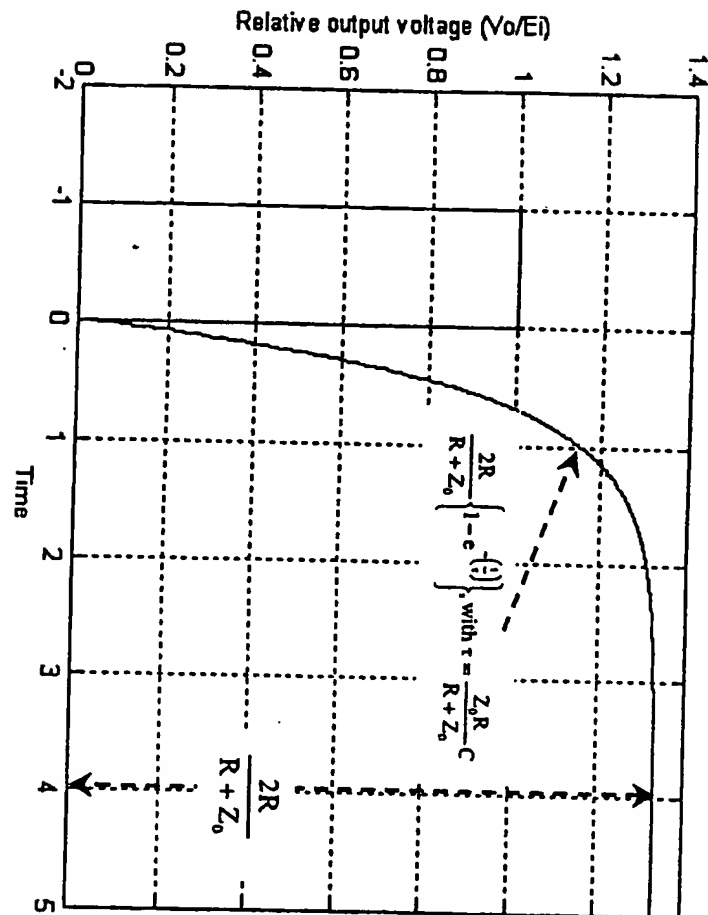


FIGURE 17

TITLE: WIRE FAULT DETECTION

Inventors: Eric Robert Bechhoefer, et al.

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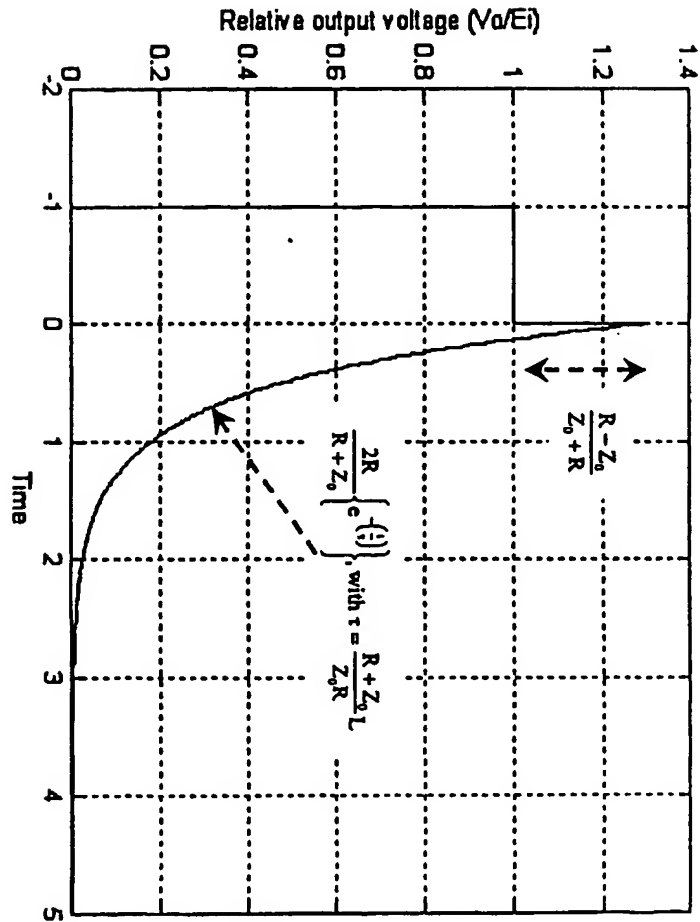


FIGURE 18

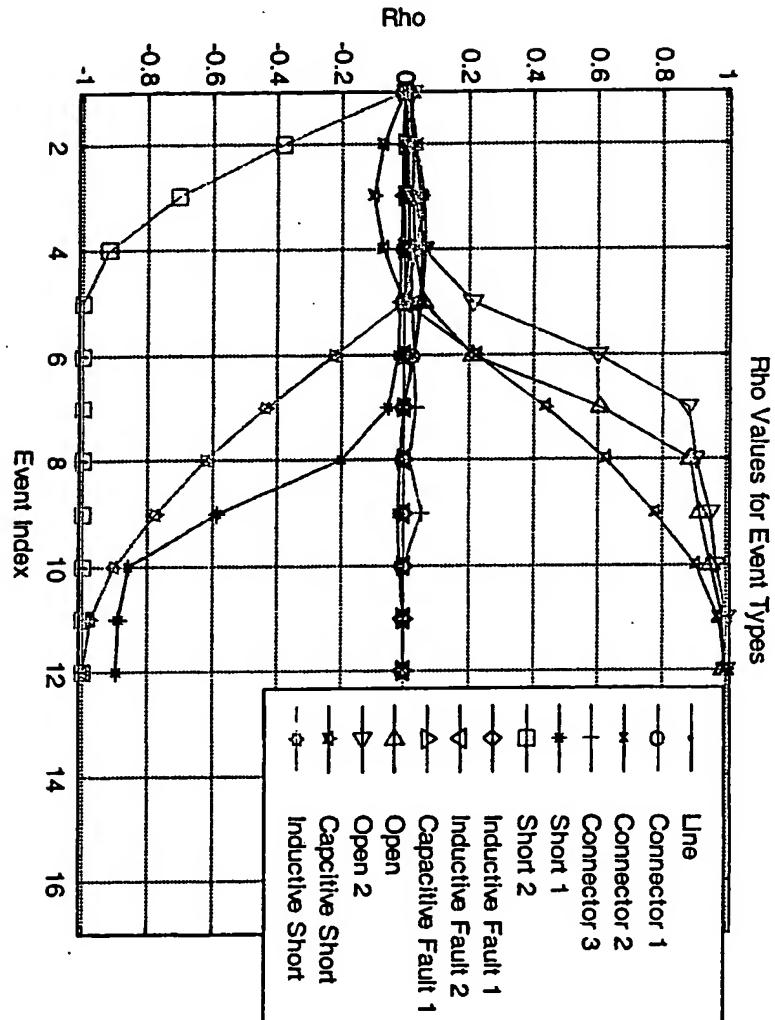


FIGURE 19

1000

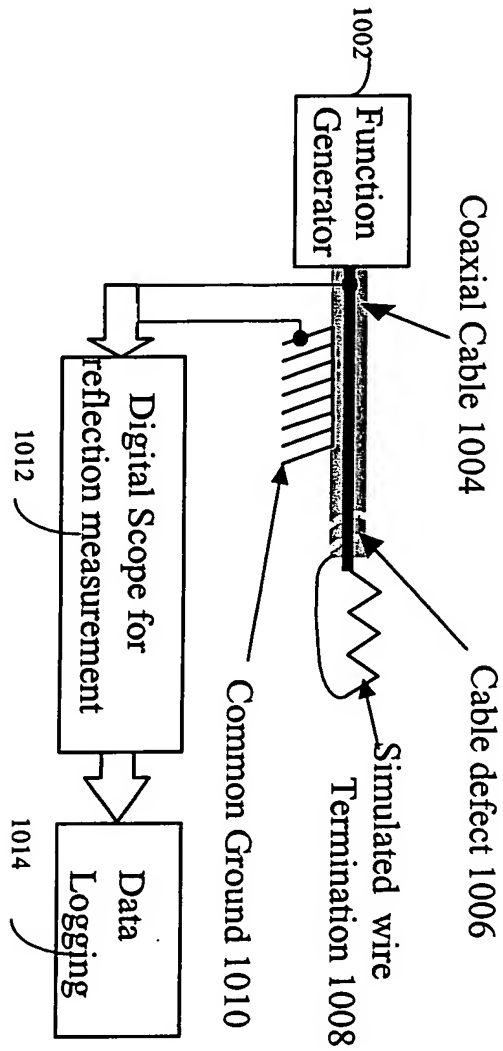
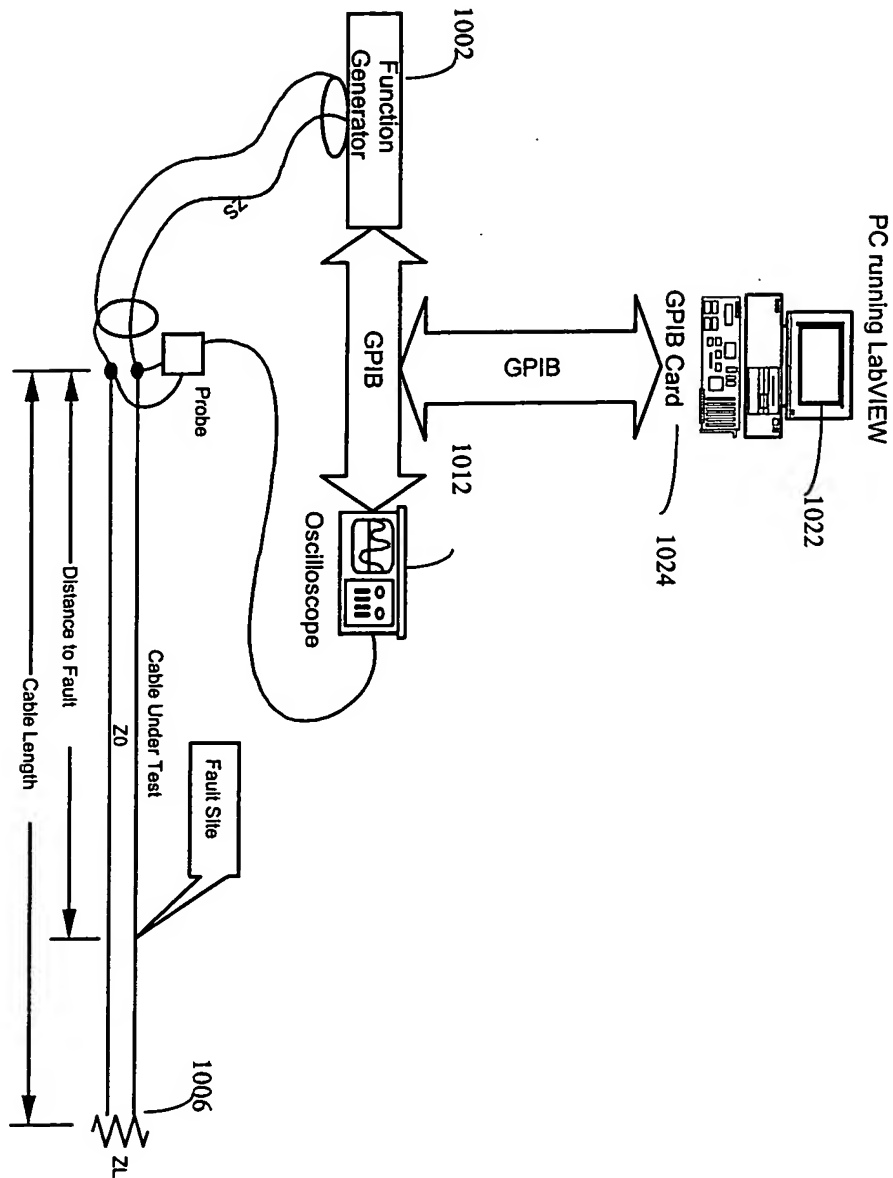


FIGURE 20

1020



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1030

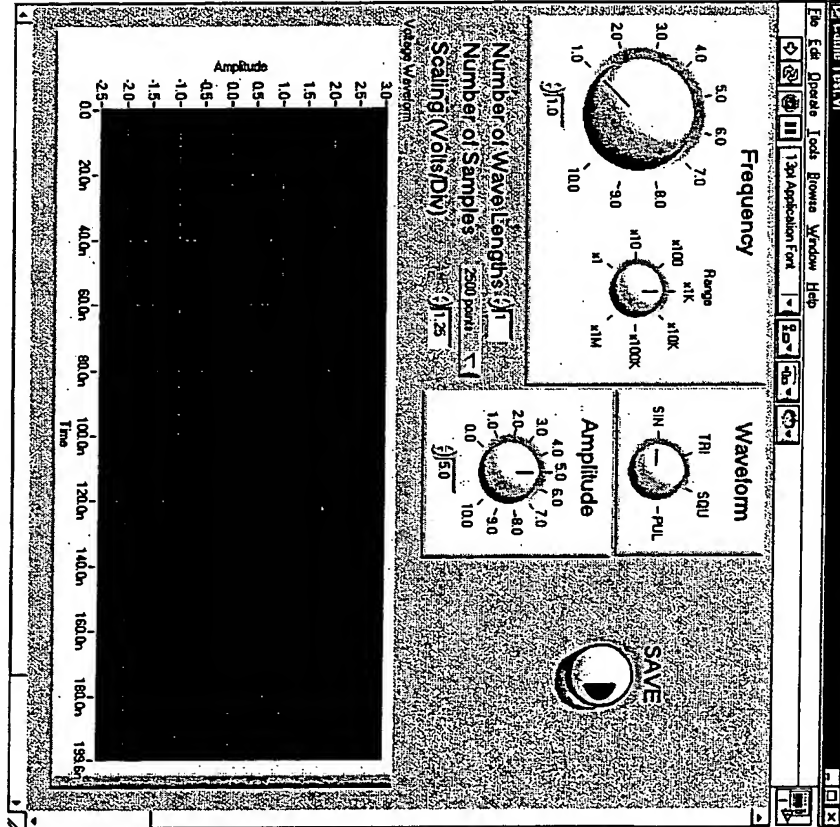


FIGURE 22A

BEST AVAILABLE COPY

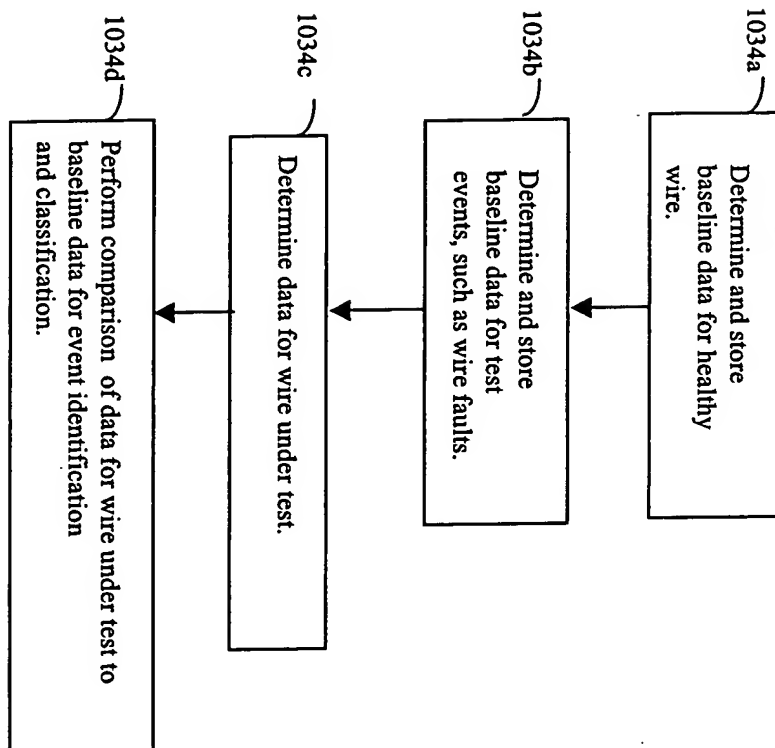


FIGURE 22B

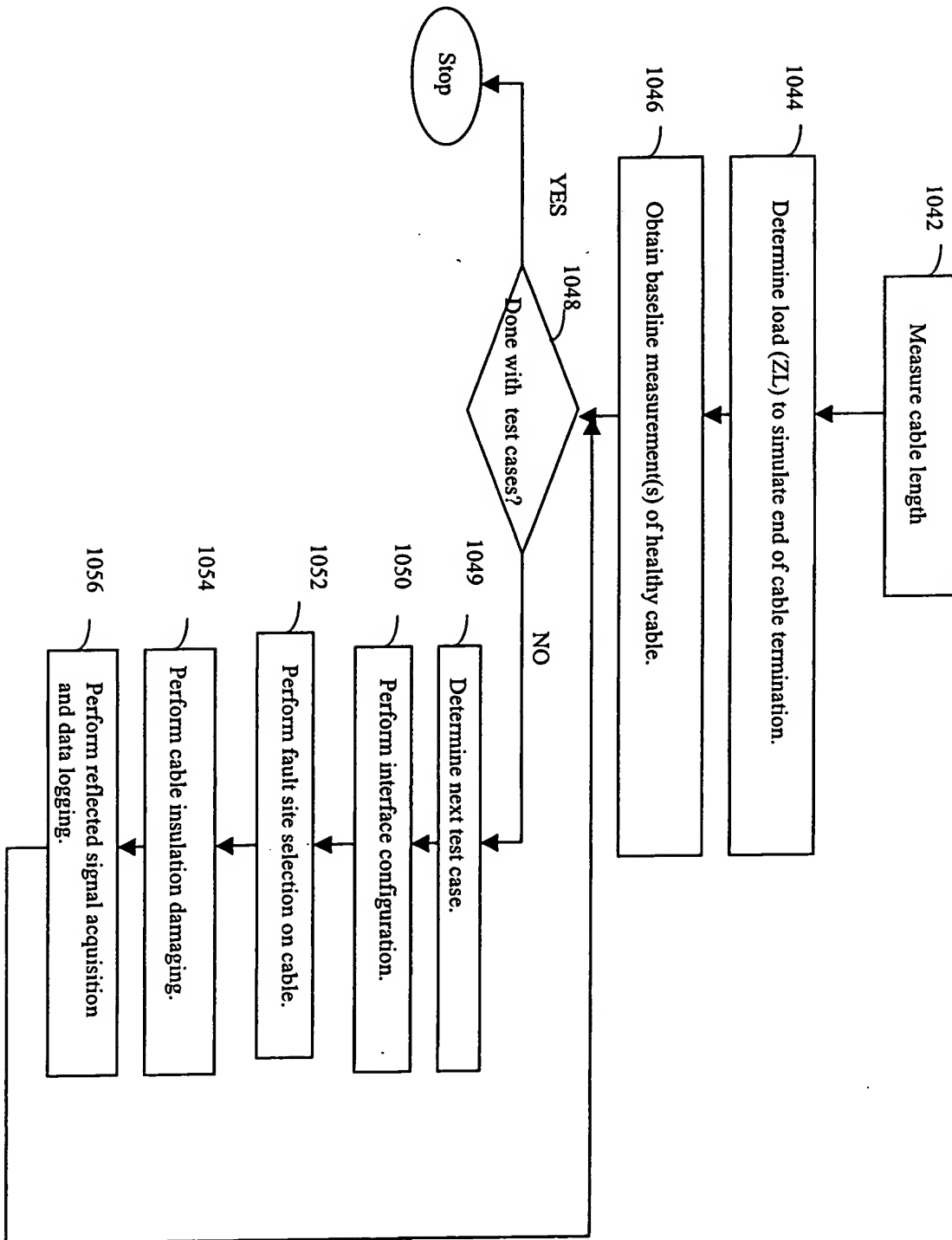


FIGURE 22C

TITLE: WIRE FAULT DETECTION

Inventors: Eric Robert Bechhoefer, et al.

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1070

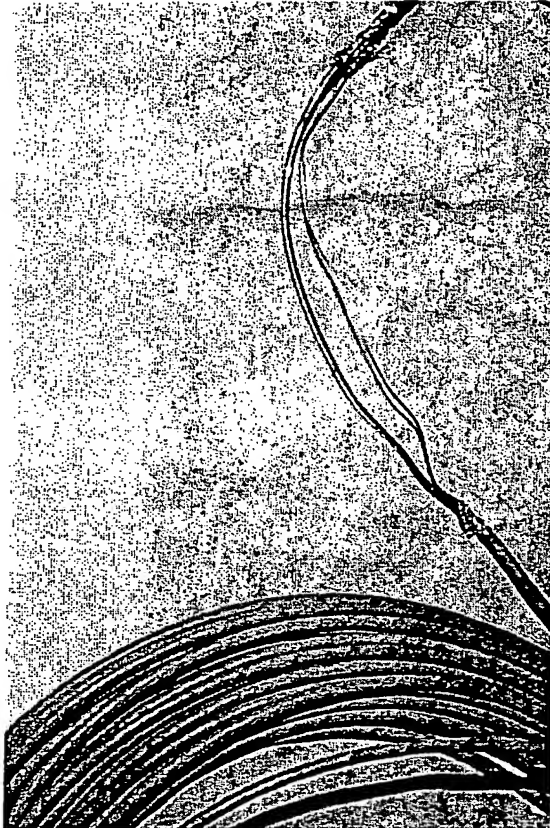


FIGURE 23

REST AVAILABLE COPY

TITLE: WIRE FAULT DETECTION

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1080

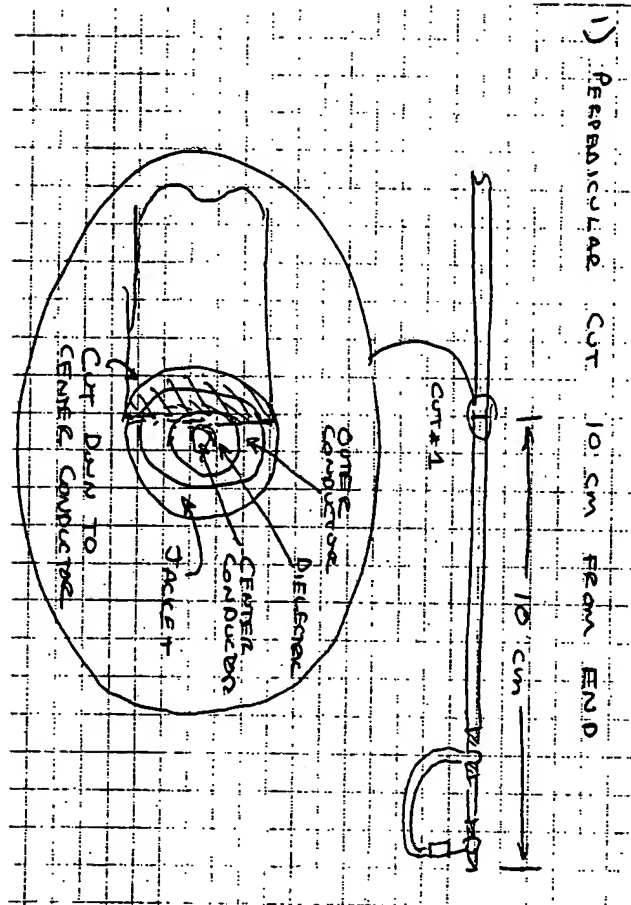


FIGURE 24A

BEST AVAILABLE COPY

1090

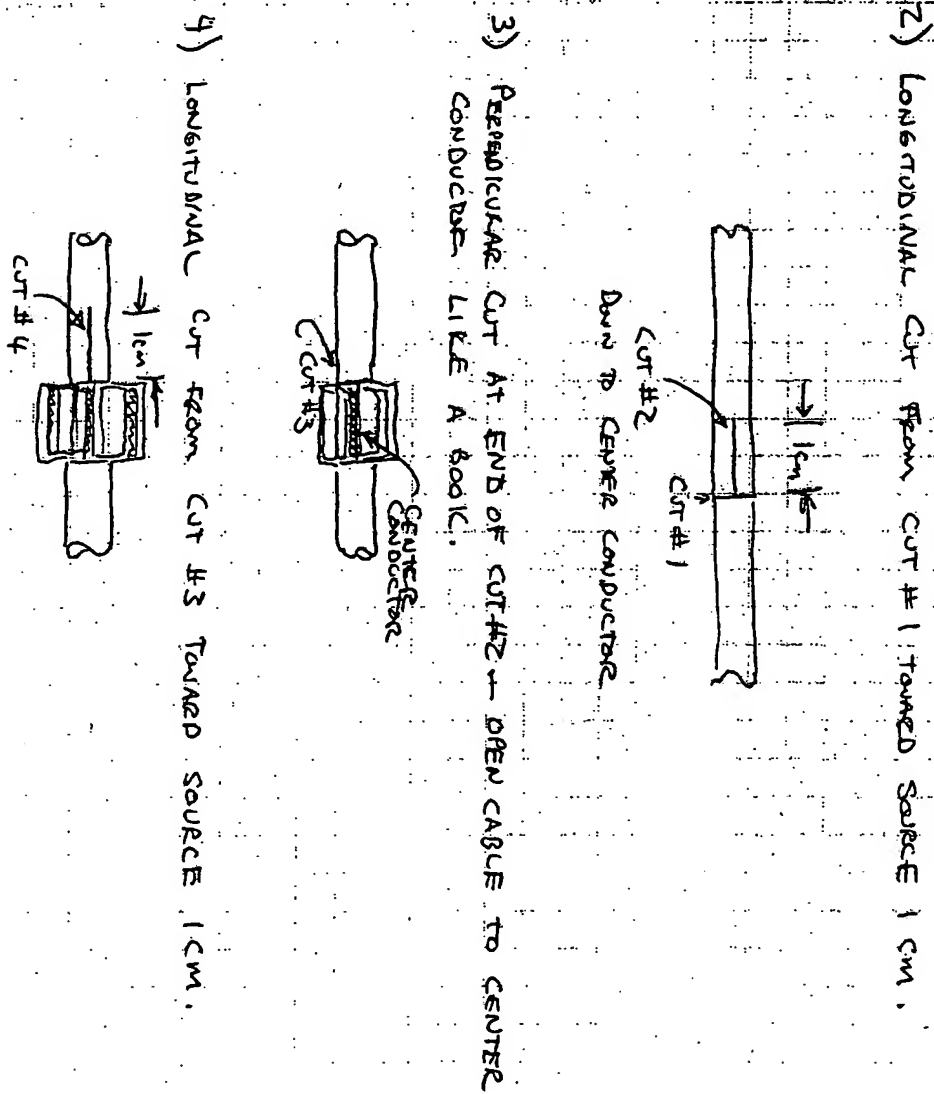


FIGURE 24B

TITLE: WIRE FAULT DETECTION

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1100

5) PERPENDICULAR CUT AT END OF CUT #4 - OPEN CABLE TO
CENTER CONDUCTOR LIKE A BOOK.

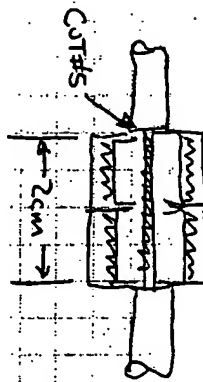
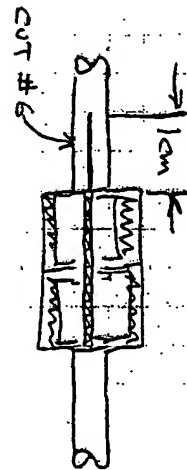


FIGURE 24C

1110

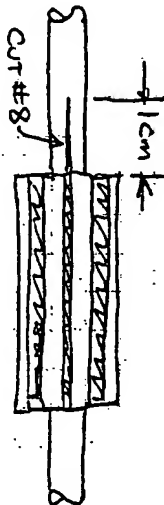
6) LONGITUDINAL CUT FROM CUT #5 TOWARD SOURCE 1 CM.



7) PERPENDICULAR CUT AT END OF CUT #6 - OPEN CABLE TO CENTER CONDUCTOR LIKE A BOOK



8) LONG. CUT FROM CUT #7 TOWARD SOURCE 1 CM.



9) PERP. CUT AT END OF CUT #8 - OPEN CABLE TO CENTER CONDUCTOR LIKE A BOOK.

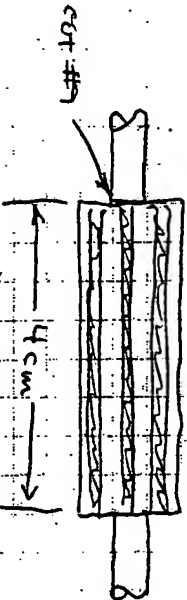


FIGURE 24D

1120

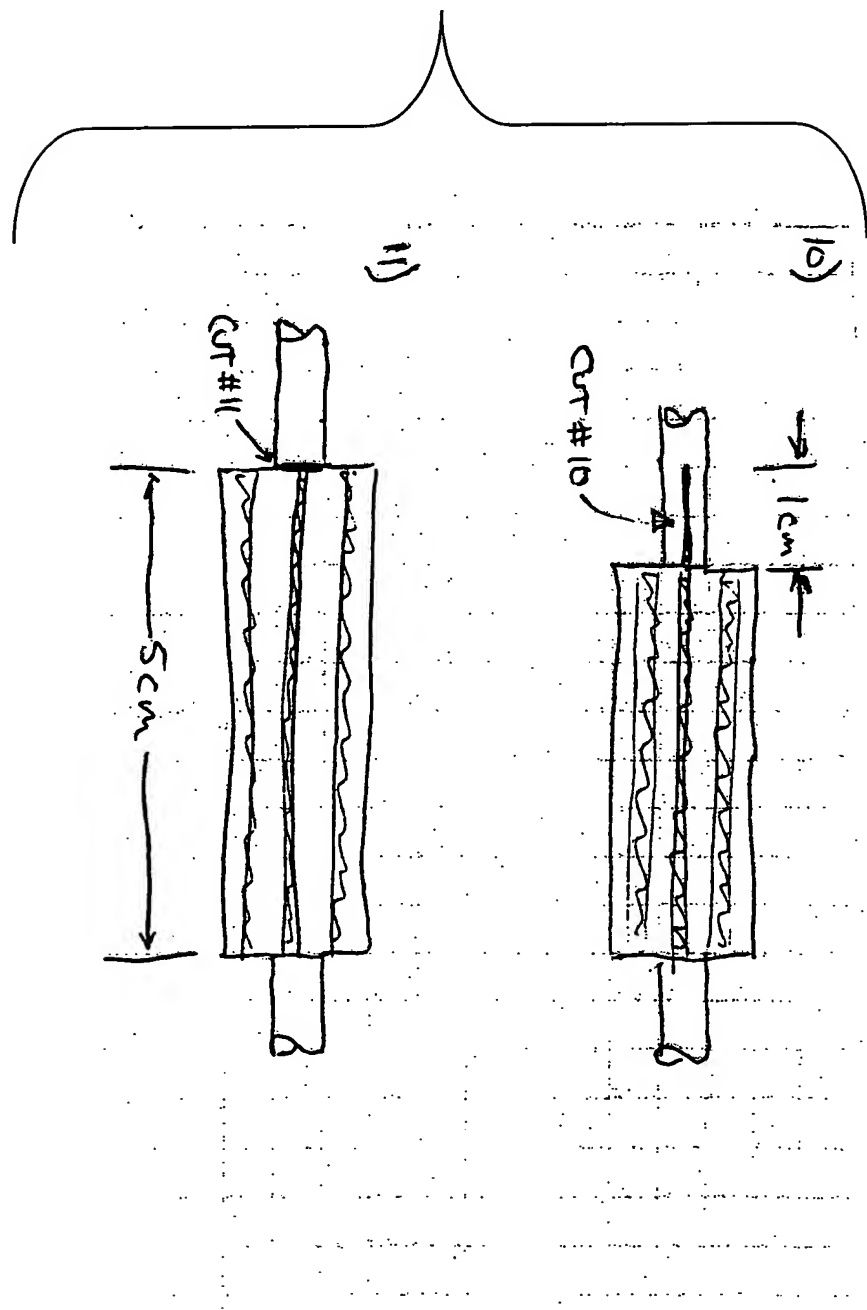


FIGURE 24E

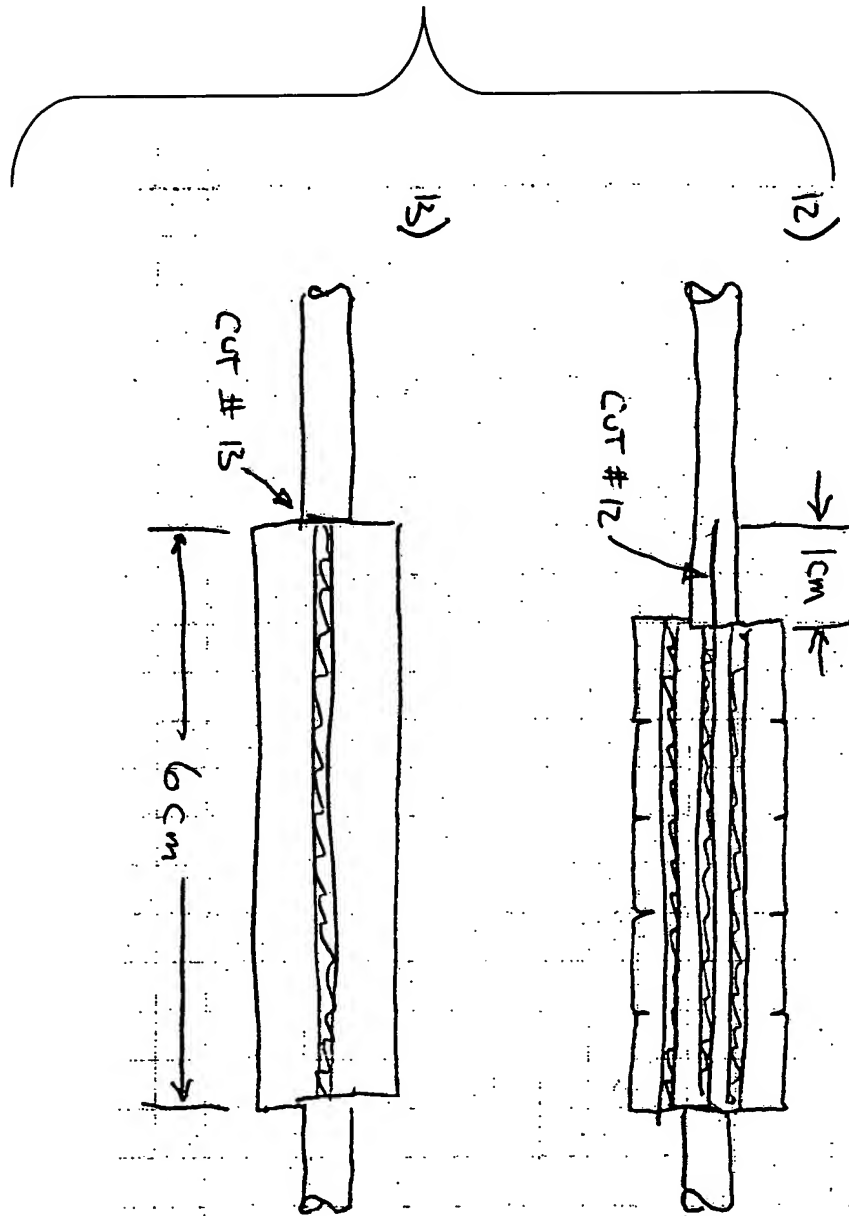


FIGURE 24F

TITLE: WIRE FAULT DETECTION

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1140

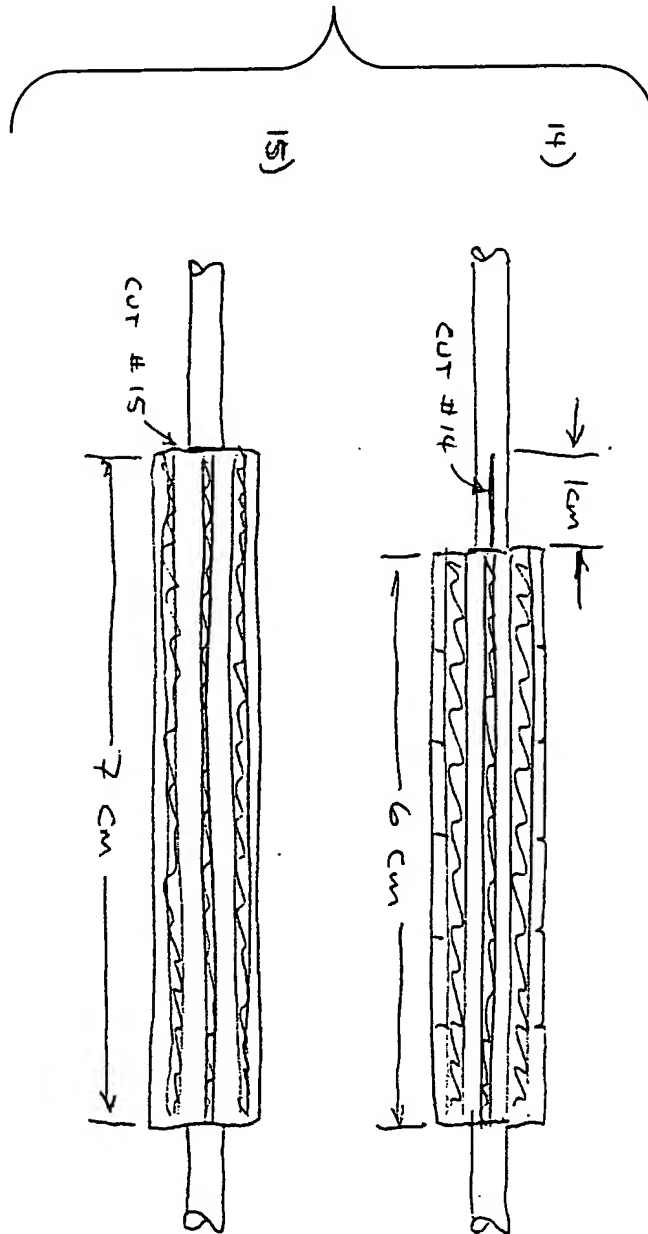


FIGURE 24G

TITLE: WIRE FAULT DETECTION

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1145

Reflections generated by an eight ns-width pulse and sampled at 1-GHZ frequency.

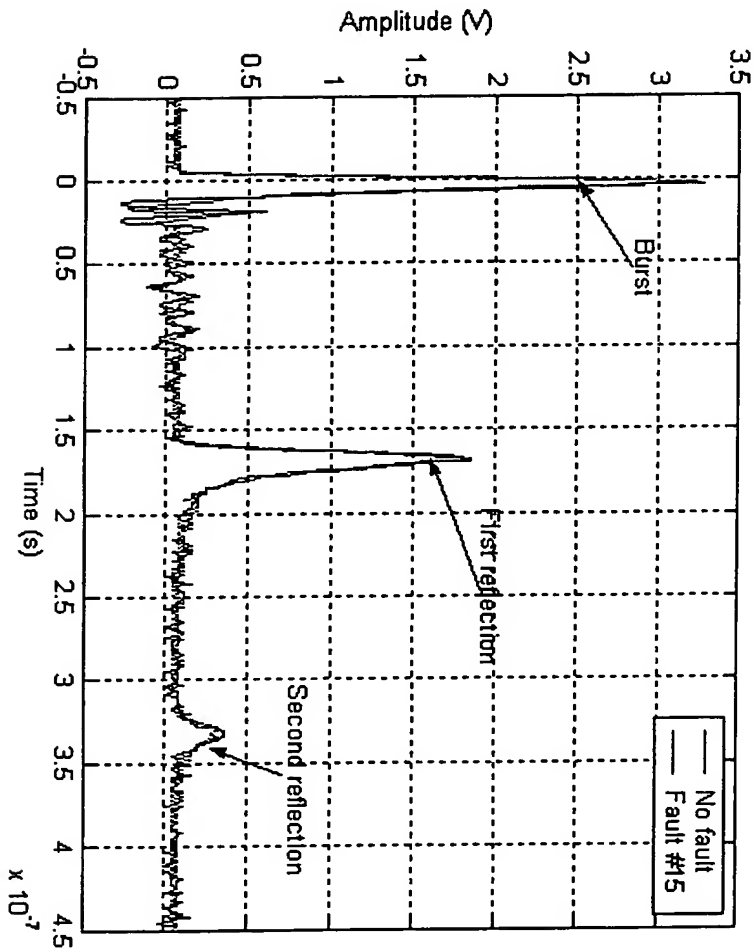


FIGURE 24H

1150

Differential wavelet energy ratio versus fault-sizes computed using the pulse stimulus of the Figure 24H over a time-span of 0.5 microseconds and a frequency band of 0.1 → 5.6 MHz.

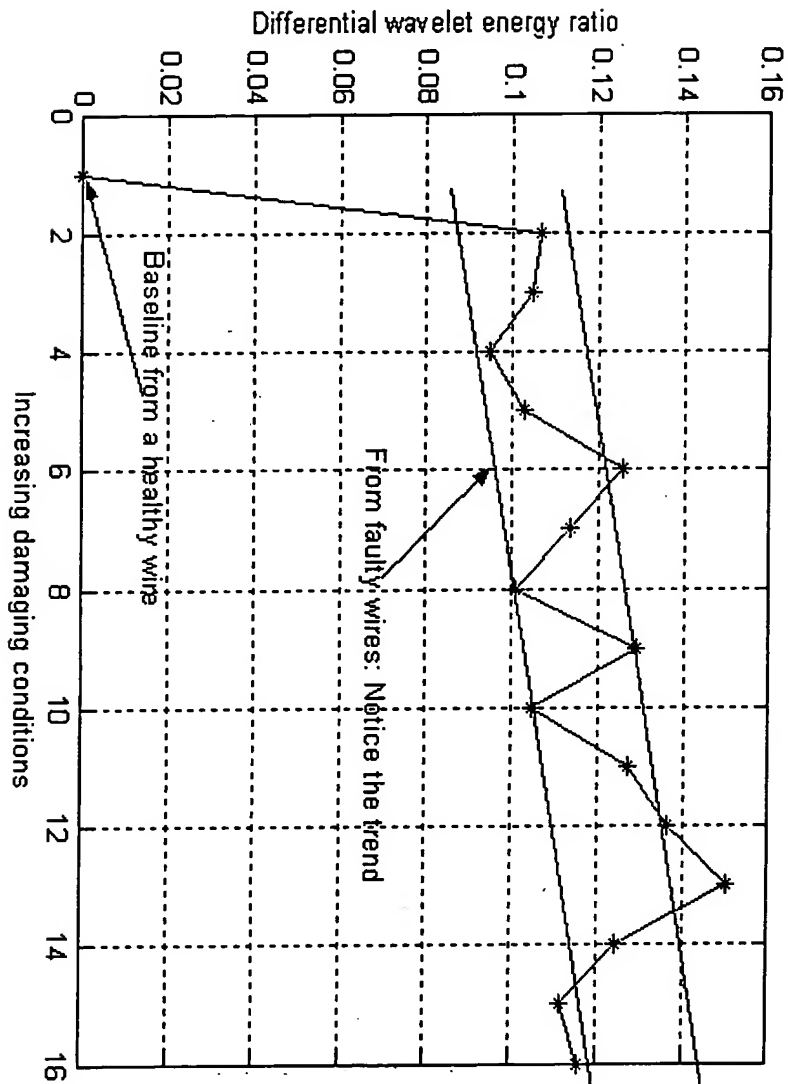


FIGURE 25

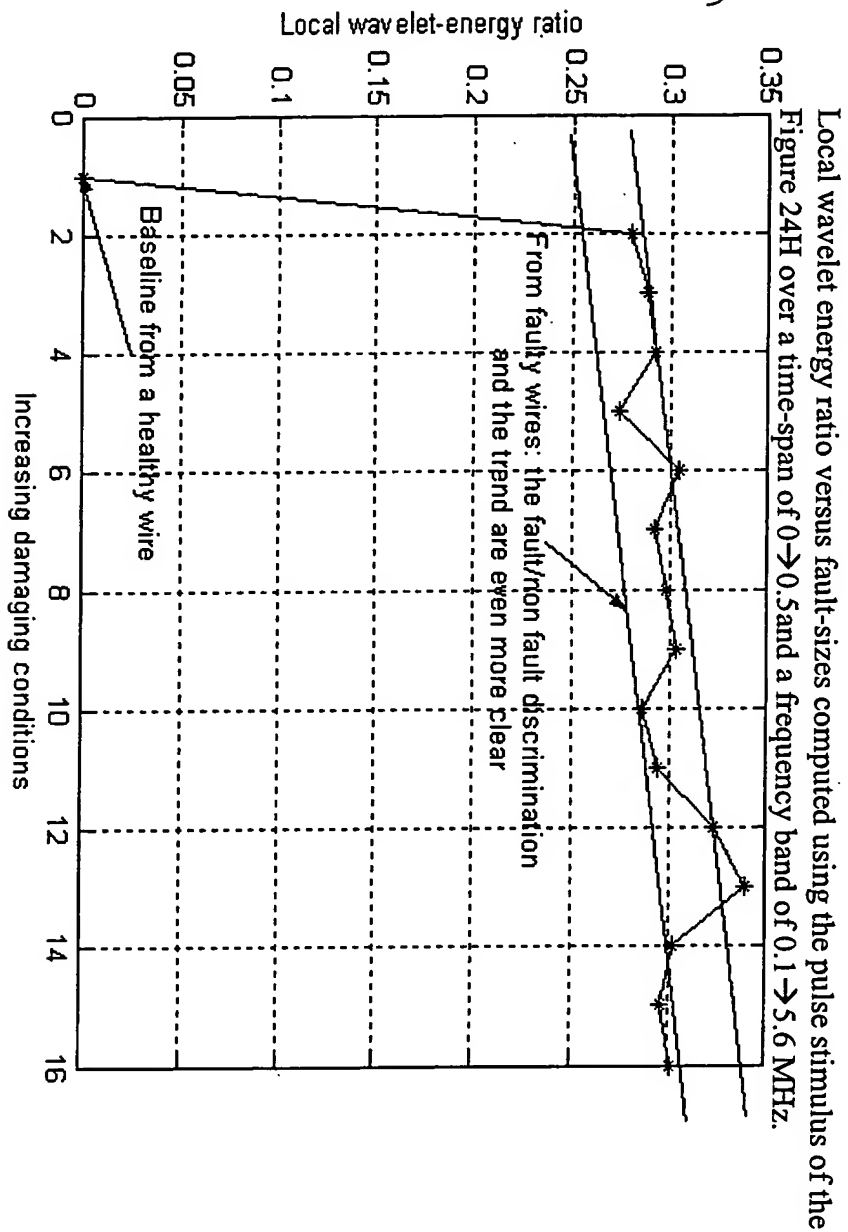


FIGURE 26A

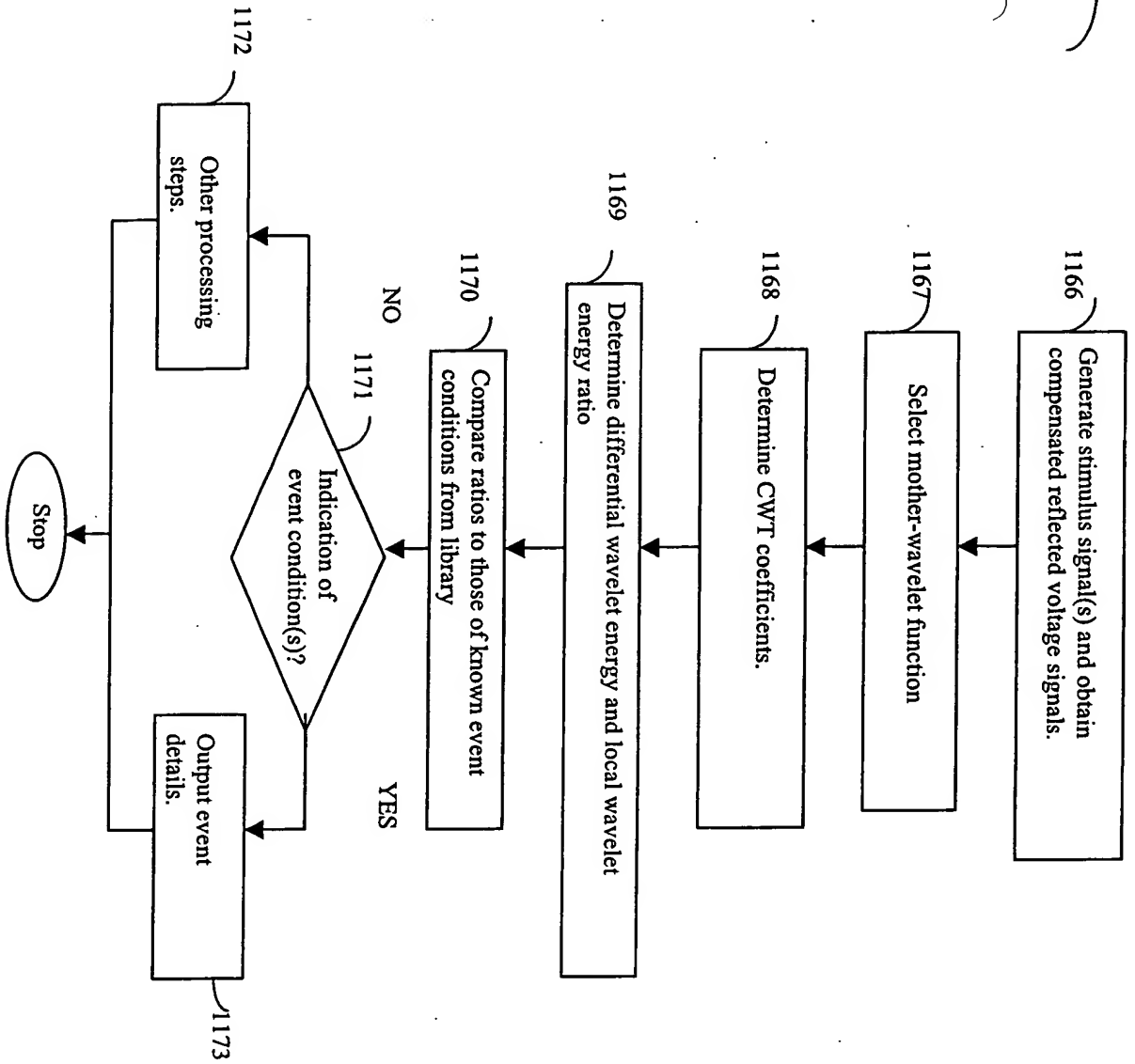


FIGURE 26B

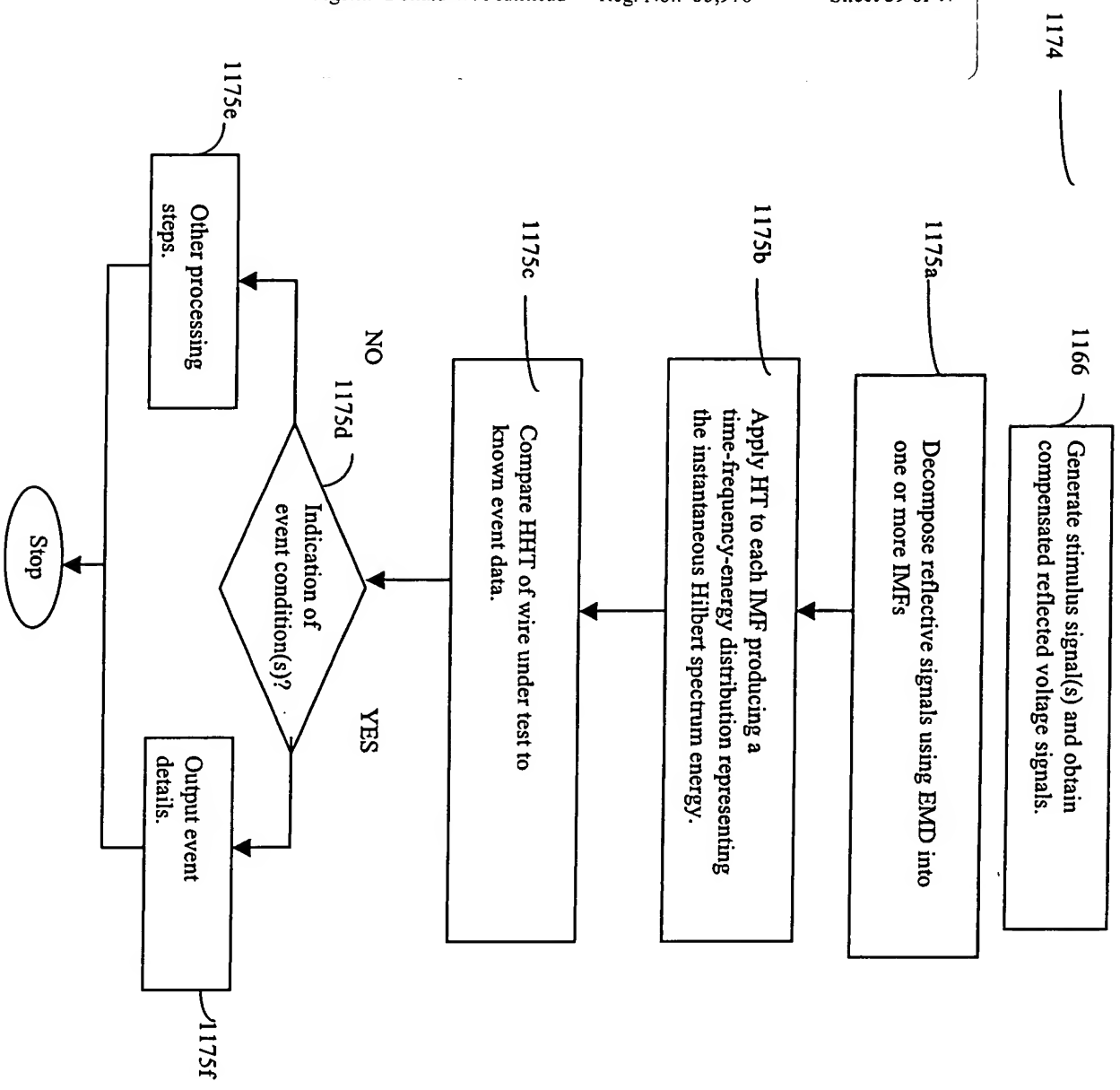


FIGURE 26C

1180

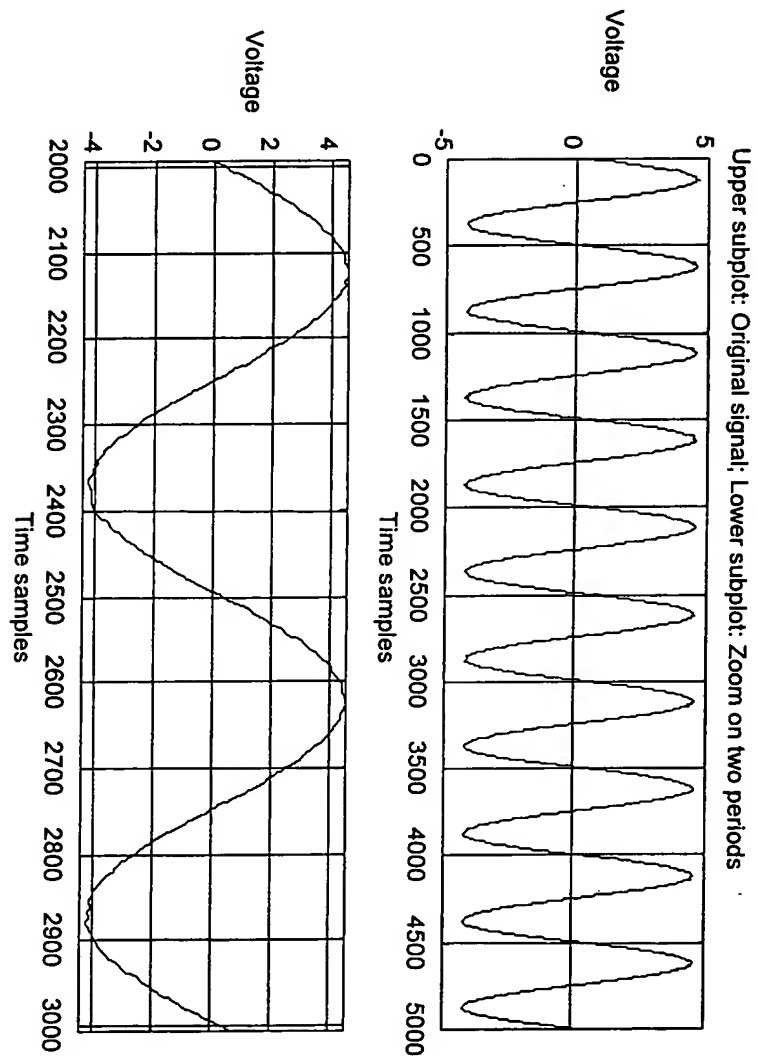


FIGURE 27A

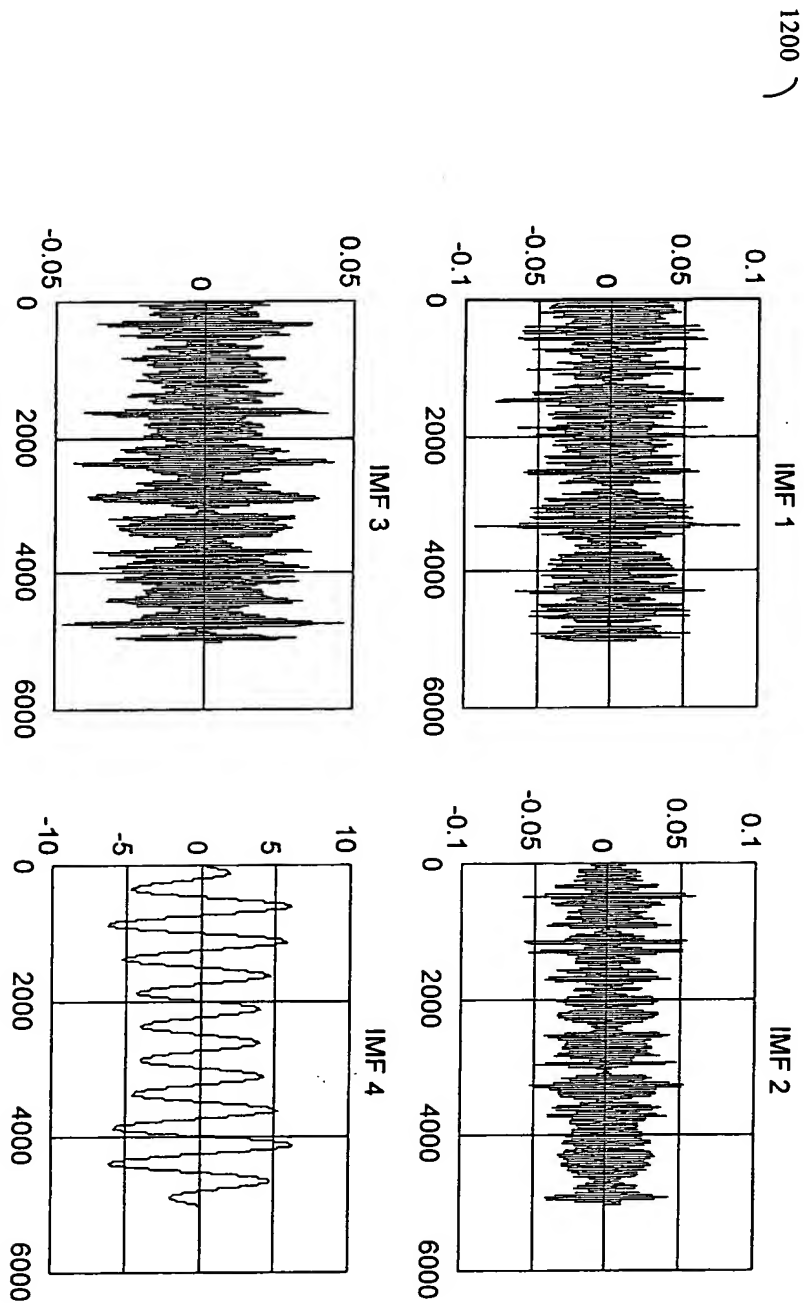


FIGURE 27B

1220

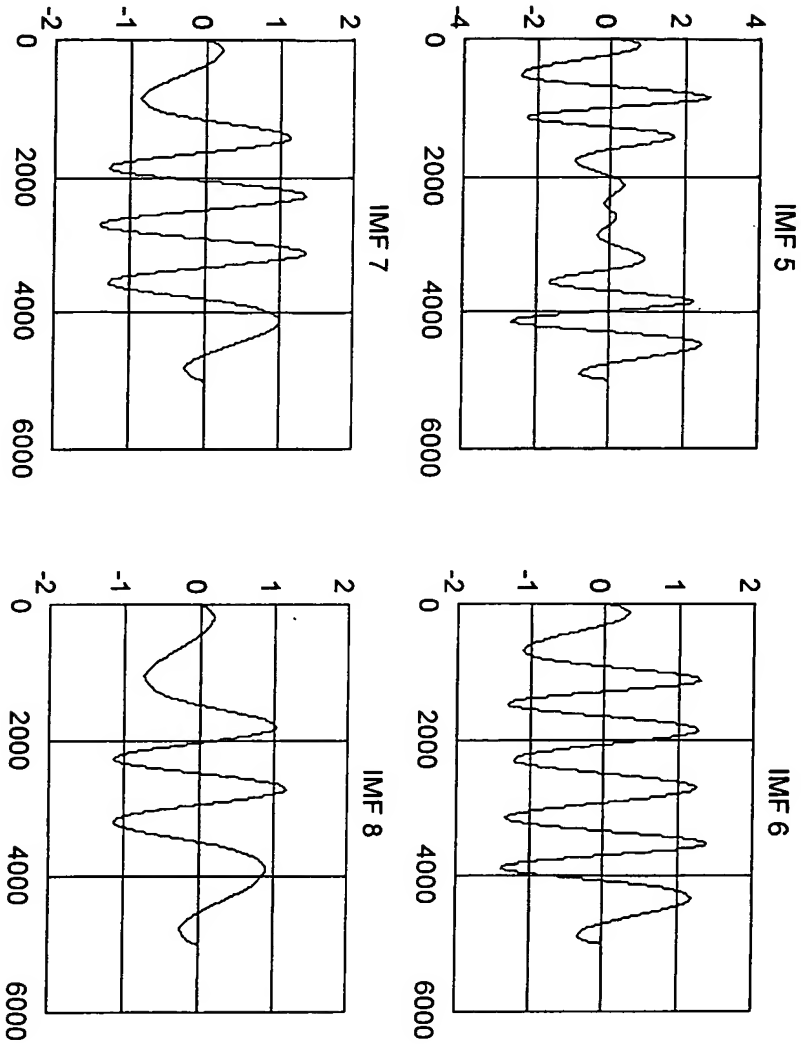


FIGURE 27C

1240

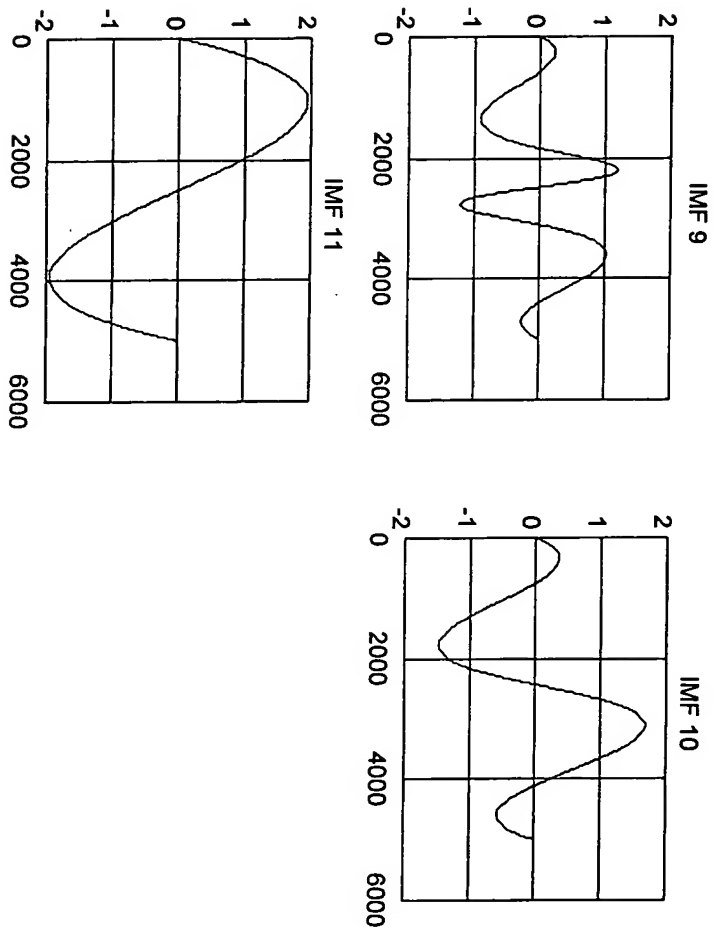


FIGURE 27D

TITLE: WIRE FAULT DETECTION

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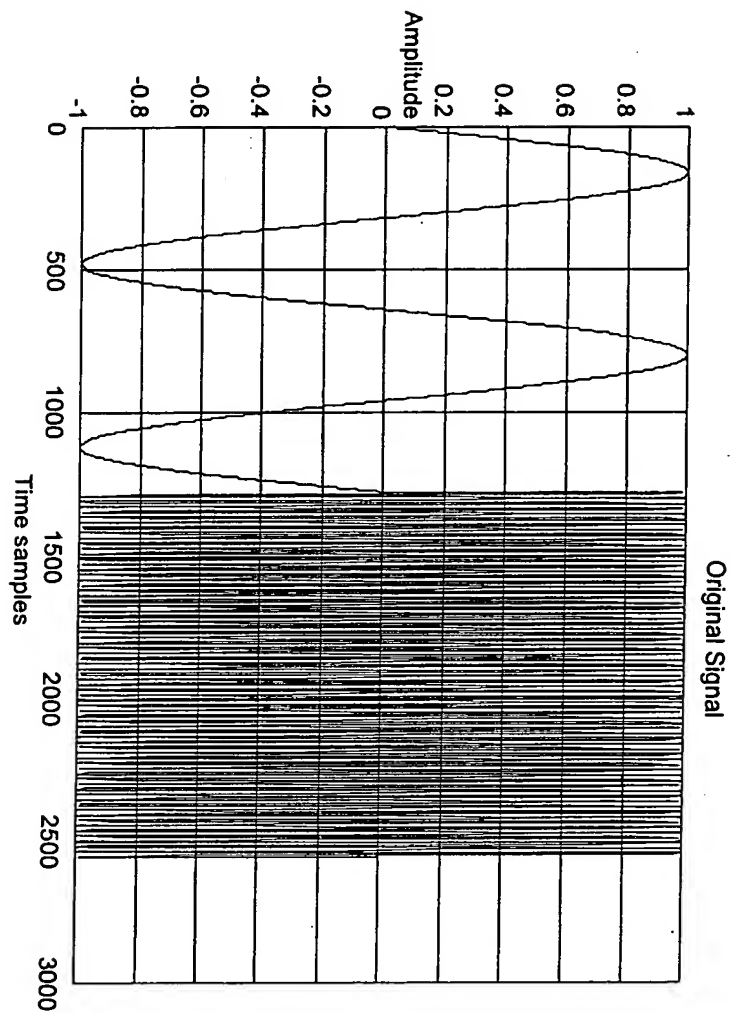


FIGURE 28A

TITLE: WIRE FAULT DETECTION

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1320

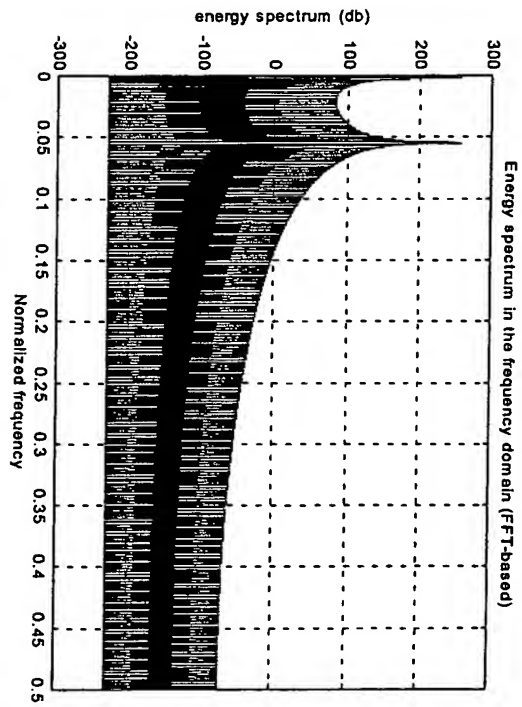


FIGURE 28B

TITLE: WIRE FAULT DETECTION

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1340

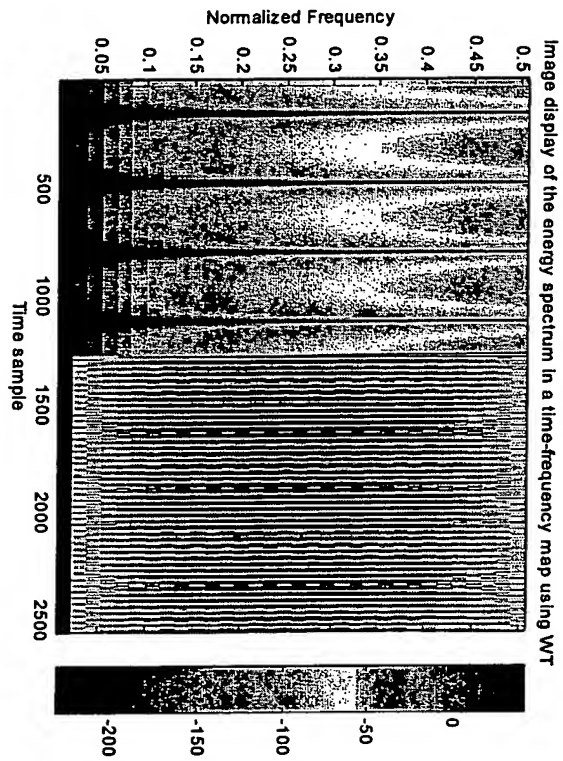


FIGURE 28C

TITLE: WIRE FAULT DETECTION

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1360 7

Image display of the energy spectrum in a time-frequency map using HHT

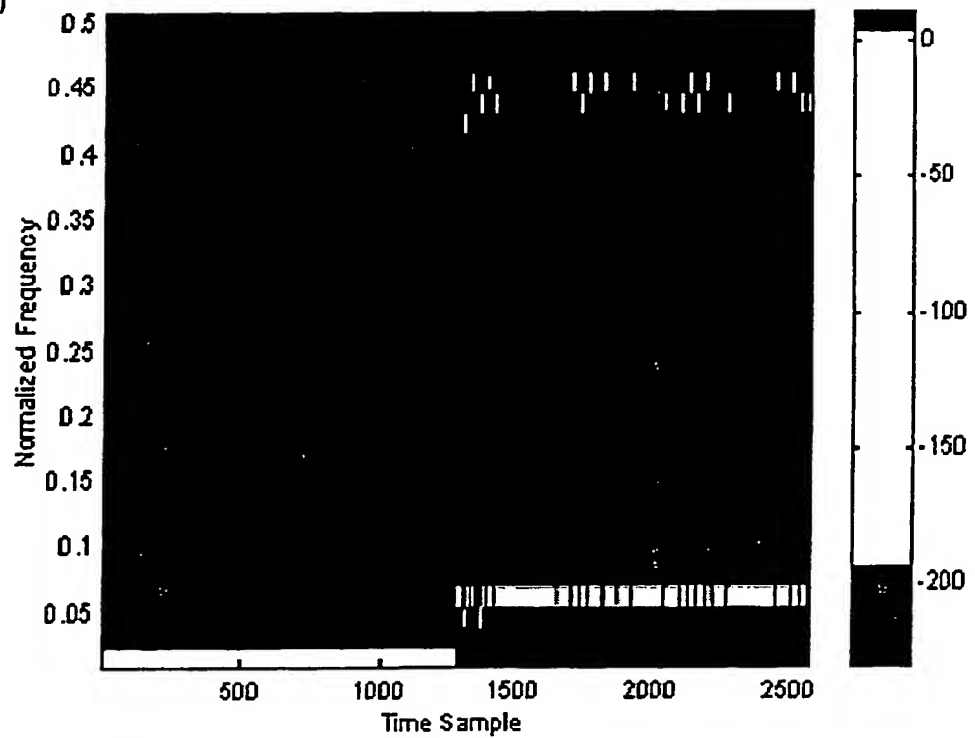


FIGURE 28D